a W. R. C. Smith publication

FIFTY CENTS

Textile Industries

Formerly "COTTON"

NOVEMBER, 1959

70 NEW MACHINES
are described in a 15-page word-picture report on the largest textile machinery show in history
Starts on page 83

How to grade yarns
page 107

Variable-speed wool spinning—mill report
page 112

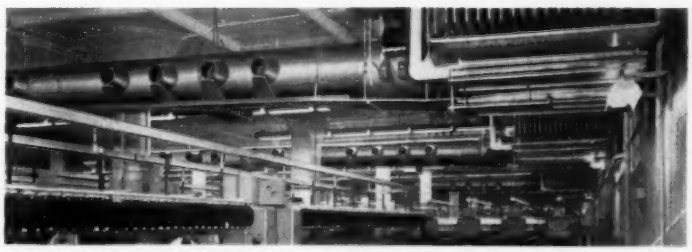
Handy weaving production chart
page 118

33 tips for running ARA-400 hose machine
page 149

DAN RIVER'S

1st CHOICE 5 TIMES

Says Basil D. Browder
Executive Vice-President, Dan River Mills, Danville, Va.



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WITH REFRIGERATION AND EASY-FLO FILTERS

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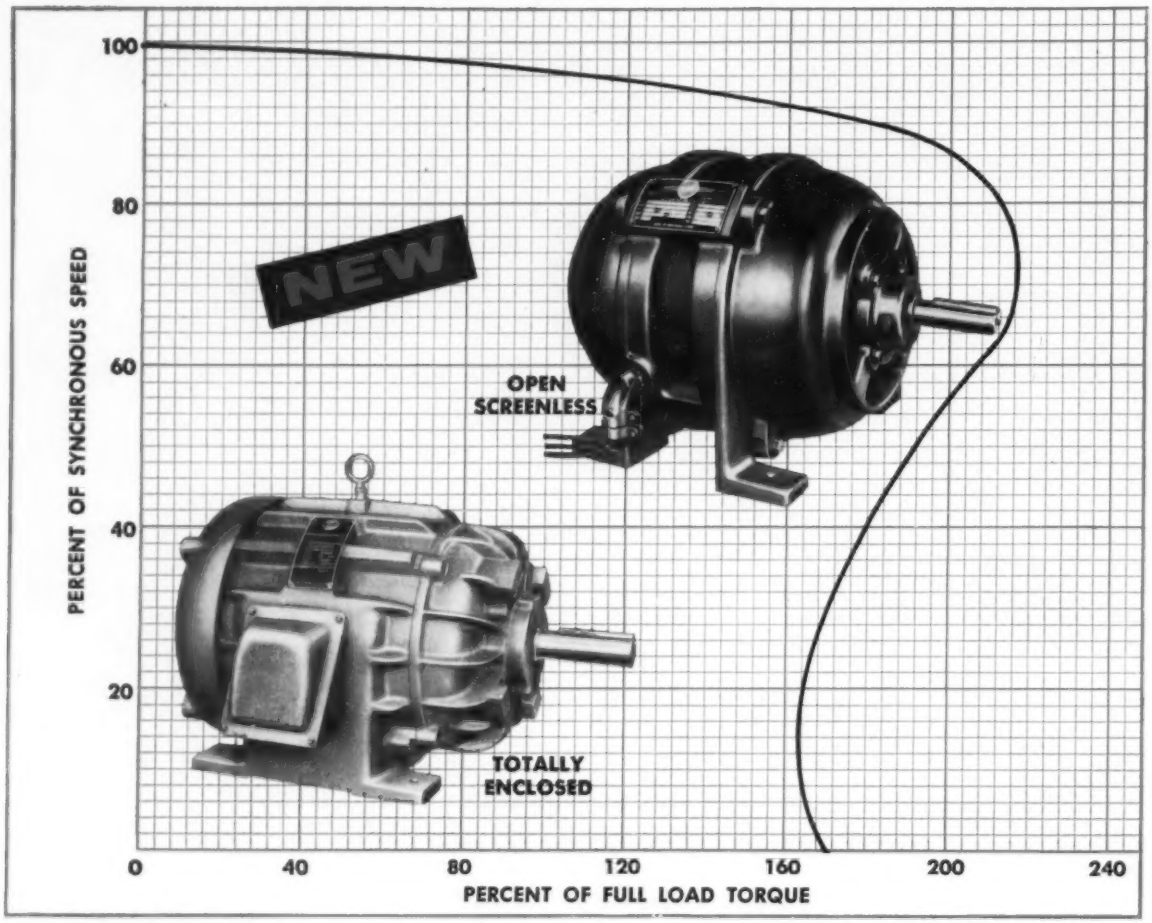

DIEHL* *"Smooth-Accel"* TEXTILE MOTORS

Designed specifically for roving, spinning, combing and similar applications requiring smooth, uniform acceleration

Available in Sizes From 1 to 20 HP

This new line of DIEHL "Smooth-Accel" Textile Motors meets the textile industry's requirements for motor drives with extra smooth and uniform acceleration characteristics, and incorporates design advancements which make this new line top-choice for the efficient operation of today's high speed textile machines.

Note These Important New Advantages

● **Smooth Acceleration:** Smooth, gradual rate of acceleration over the entire operating cycle features the new "Smooth-Accel" line . . . resulting in materially reduced "ends-down" time, and uniform quality of production. The typical curve above illustrates the excellent speed-torque characteristics from zero to full speed. Reconnection of leads for new frame break-in is unnecessary.

● **Reduced Power Costs:** DIEHL "Smooth-Accel" Motors have both high efficiency and power factor over the complete operating range . . . *keep power costs to a minimum.*

● **High Over-Load Factor:** Liberal electrical design and effective ventilation of DIEHL "Smooth-Accel" Motors substantially increase the overload factor, minimizing initial investment . . . *more horsepower at lower cost.*

● **Long Service Life:** "Smooth-Accel" motor windings feature high dielectric and mechanical strength, high thermal rating and special humidity-proof impregnation ... protection against wide voltage variations and the effects of continuous operation under adverse conditions.

● **Construction Features:** Streamlined, easy-to-clean enclosures—dynamically balanced rotors — over-size bearings — large 4-way terminal box (oil- and water-tight connector and vinyl-covered cable optional) — standard NEMA mounting dimensions for ready interchangeability — *minimum maintenance.*

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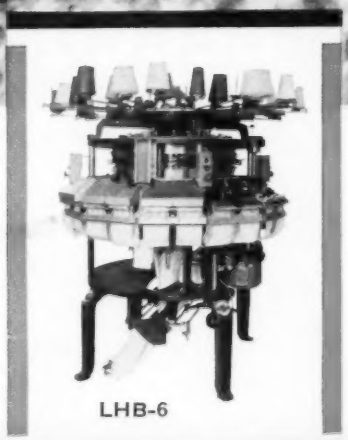

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Traditional quality . . .

Now the LHB-6 offers quality "Bulky knits" in 3 or 4 cut 30″ diameter with all the versatile features of the LH-6. A machine designed especially for "bulky knit" fabrics with a wide range of pattern possibilities including half cardigan, links and links, jersey, reverse jersey or in a variety of combinations with panels, self designs, tuck effects and other fancy stitches all with various rib cuffs.

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If you're finishing nylon, start off by getting your free copy of Becco Bulletin No. 60 —"Successful Bleaching of Types 670 and 200 Nylon with Peracetic Acid."

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Textile Industries

Formerly "COTTON"

NOVEMBER 1959 VOL. 123, NO. 11

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For quality fabrics–four quality latices!

New fibers–new fabrics–new selling features–are spinning out of the textile industry at a record rate. As a constantly increasing number of fabrics are being produced, manufacturers are becoming more and more selective about latices. Quality is vital. And the latex chosen must be *exactly right* for the job.

To meet this need, Goodyear offers four basic latices: PLIOLITE LATEX in two forms (as a rubber or resin dispersion), PLIOVIC LATEX (dispersion of vinyl copolymer resin) and CHEMIGUM LATEX (dispersion of nitrile rubber). They are available in a broad range of monomer ratios, particle sizes and types of stabilization. They can be used alone – or in combination with each other – or as modifiers of your present materials.

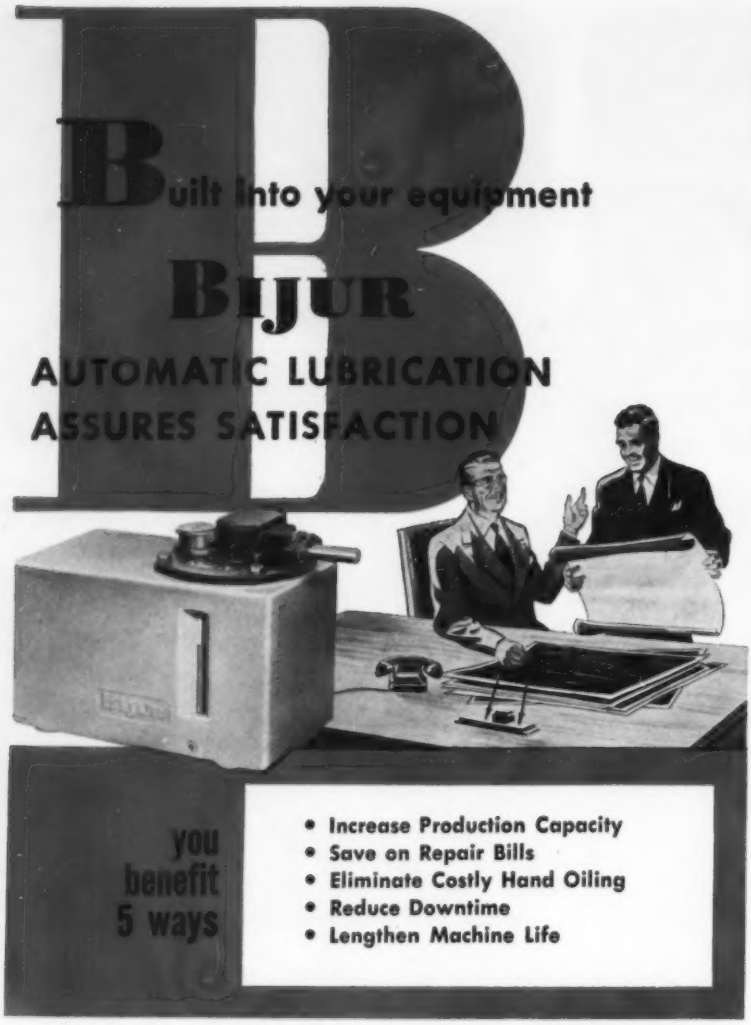
Among the benefits you can expect from these latices: better body, drape, strength and dimensional stability –improved flexibility and softness–exceptional resistance to aging – and outstanding wear qualities.

You can also expect the finest in technical assistance when you work with a Goodyear latex. Contact your Goodyear Chemical Division Representative for all the facts. Or write for details–including latest *Tech Book Bulletins*–to Goodyear, Chemical Division, Dept. K-9439, Akron 16, Ohio.

GOODYEAR

CHEMICAL DIVISION

Chemigum, Pliolite, Pliovic–T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio



WITH Bijur Automatic Lubrication as an integral part of your machines, you benefit from continuous peak production. Plant after plant reports increased out-put and greatly reduced maintenance costs with Bijur-equipped machines. Costly downtime for lubricating by hand is eliminated. Every bearing is metered the proper quantity of oil at predetermined intervals. Work spoilage and bearing troubles caused by over-lubrication are avoided. Fire hazards are reduced. Personnel accidents are prevented.

More than a million Bijur-protected machines are currently in use. Hundreds of leading manufacturers standardize on Bijur as "built-in" components of their machines. Bijur emphasizes custom engineering, and will gladly cooperate with your machine builder in designing a lubricating system to meet the specific requirements of the machines you order.

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SHORTS & REMNANTS

Big Contests!

No magazine or newspaper worthy of the name is complete today without a contest in which clever readers can pick up some loot. Now TI is, if anything, complete, so we hereby announce a couple of contests of our own.

Contest No. 1—A fabulous prize will be awarded to the contestant who submits the best new name for a term that seems to have fallen into considerable disrepute in influential Washington circles. We mean "imports," of course.

TI's editors have watched textile men make the trek to Capitol Hill by train, plane, bus, or on their knees (a few of the politically innocent arrived in Jaguars and Volkswagens). But now it's gotten so that the word "import" triggers an immediate reaction in most bureaucrats. This can be recognized by a vacant stare, drumming of fingers, shuffling of papers, and repeating of slogans—"Trade, not Aid," "Bulwark Against Communism," and so on.

What we need is a catchy word or phrase that will make the whole thing seem like something new and vital—something that will awake the slumbering public servant. Hint to contestants: Your entry will have a better chance to win if your new term for "imports" sounds very ominous, can be said with an appropriate snarl, and above all if a little thought shows that it has no meaning whatsoever. "Ballots for Khrushchev," "Defamers of Mother and The Dog," are possibilities. But we are sure that our readers can far surpass these.

In fairness, the following must be declared ineligible to enter the contest:

1. Employees of plants finishing more than 100,000 yards per week of Japanese grey goods.

2. Employees of mills which have contracted for more than 20,000 European-made spindles in the last fiscal year.

3. Employees of mills which have sold fabrics in Canada during the last calendar year at more than 2

For further information use Handy Return Card, Page 183

Providence Braid Company, Providence, R. I. showing ductwork, air outlets and atomizers.

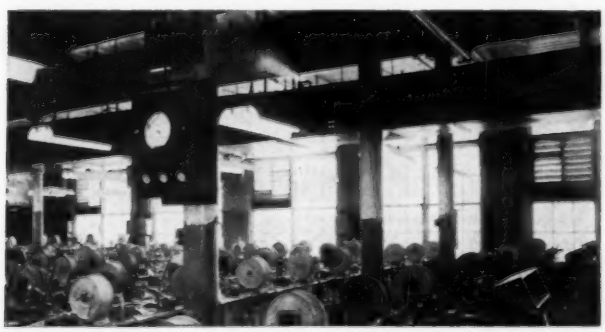
Is your humidifying system providing maximum cooling?

At Providence Braid Company an Amco Unit Dry-Duct system operates to control humidity precisely and, at the same time, to provide maximum cooling commensurate with the required evaporation.

As moisture from atomizers in a humidifying system evaporates, heat is absorbed and the air temperature is lowered. This cooling can be increased substantially by a positive ventilating system (such as an Amco Unit Dry-Duct system) which introduces fresh air uniformly throughout the mill room, thereby deliberately increasing the demand for evaporation in order to lower the temperature and maintain the selected humidity.

A unit dry-duct system consists of one or more air handling units, air ducts, room atomizers and pressure type window vents. When cooling is not required, recirculated air (instead of fresh air) is drawn into the unit, filtered and heated when necessary, then distributed through the ducts back into the room.

Amco's Unit Dry-Duct system is only one of several types of textile mill air conditioning systems which Amco engineers, manufactures and installs. For expert help, based on more than 70 years' experience, next time call on Amco.



◀ In same mill room, humidity control in foreground — window exhaust vents in background.

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38-9

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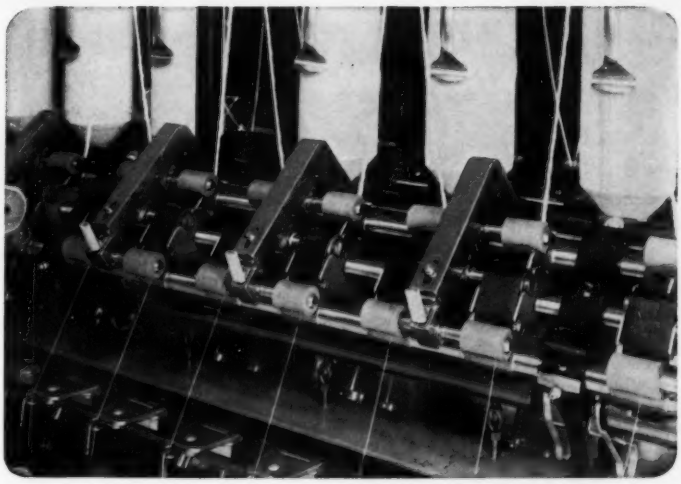
ROBERTS *PosiWate* SUSPENSION SYSTEM

PosiWate Ball Bearing Top Roll Suspension eliminates all cap bars and the need for top roll oiling. All three lines of top rolls have double-row ball bearings; heavier weighting can be handled when required. Weight distribution is positive. Hooks, short springs and other gadgets are not used. Roberts Ball Bearing Bottom Rolls with EvenGrip Fluting are also available.



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ARROW M-1 SPINNING FRAMES

for cotton and for synthetics 1½ to 3¼ inches long

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Roberts Supreme Ball Bearing Spindles

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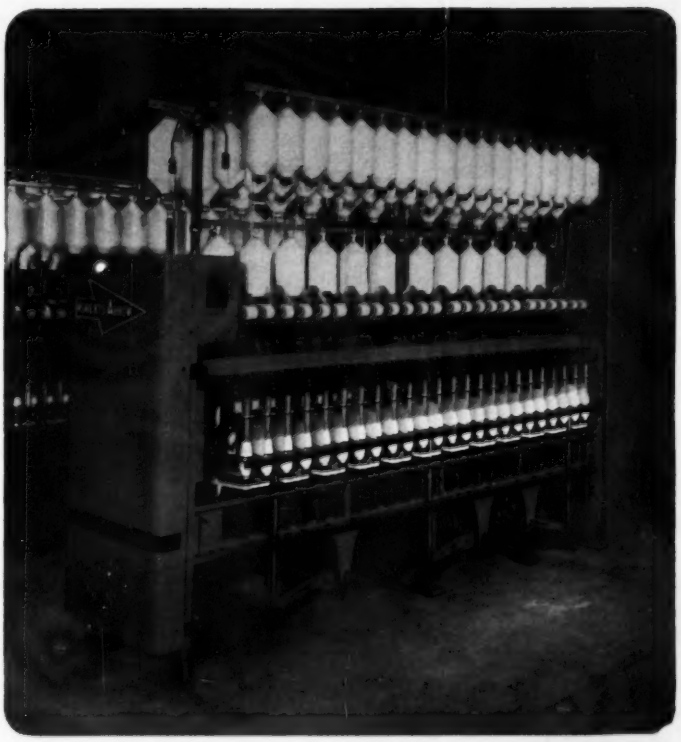
UnitVac Power-Suction Cleaning

Roberts All-Ball-Bearing Head

Unitized Sectional Frame

AeroCreel with Latch-Type Bobbin Holders



ROBERTS COMPANY

SANFORD, NORTH CAROLINA

For further information use Handy Return Card, Page 183

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Ask the man from S-W . . .

. . . about the excellent wear-resistance qualities of **MICROROK** covers. Heat resistance this cover offers, too, up to 180°F PPadder, Mangle, Washer, and Carbonizer Rolls give long service life when their covers are **MICROROK.**

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MICROROK
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SHORTS & REMNANTS

(from page 6)

cents per yard below cost.

First prize in the contest will be a bound volume of the press releases issued by the Japan-U.S. Textile Information Service. And it will be bound in U.S.-woven velveteen, even if—as seems likely—we have to weave it ourselves.

Contest No 2. TI stands second to no one in its tender regard for our textile schools, so to publicize the ingenuity of the students at these schools and to encourage them to learn more about the industry which they will some day be running, we are conducting an essay contest. Students at all the textile schools are eligible to enter.

Entrants may submit an essay in one or more of the following categories: Production, Management, Personnel, and Kinks. Our judges have listed these topics:

Production — "Converting Draper Looms to Manufacture Nonwoven Fabrics."

Management—"The Mill Village—Neglected Source of Profits."

Personnel — "Understanding the Senile Employee."

Kinks—"Reworking Teazel Burs for Fun and Profit."

First prize will be an attractive souvenir of the 1950 Atlantic City textile machinery exhibition.

Both contests close at midnight, December 31, 1959, so get your entries in NOW!

Bees in Nylon Bonnets

A newspaper filler advises folks wearing clothes of some of the man-made fibers to stay away from bees: "The odor of new clothes containing some man-made fibers is so objectionable to bees that the wearer may be badly stung." Commenting on this in *The Atlanta Constitution*, Ernest Rogers says, "I see some folks step out in garb which makes it apparent that has already happened."

But no one has yet been stung by asking for a copy of TI's 1959 revision of the annual "Properties and Uses of the Man-Made Fibers," which also includes a list of trademarks. Recent requests for copies came from **H. C. Woodall, Jr.,** exec. v-p and gen. mgr., Carolina Narrow Fabric Co., Winston-Salem, N. C.; librarian, Dominion Textile Co., Montreal, P.Q.; **A. Goldfarb,** United Merchants & Manufacturers, Inc., NYC; **Peter V. Catlos,** gen. mgr., Canadian Ribbon Tape Co. Ltd.,

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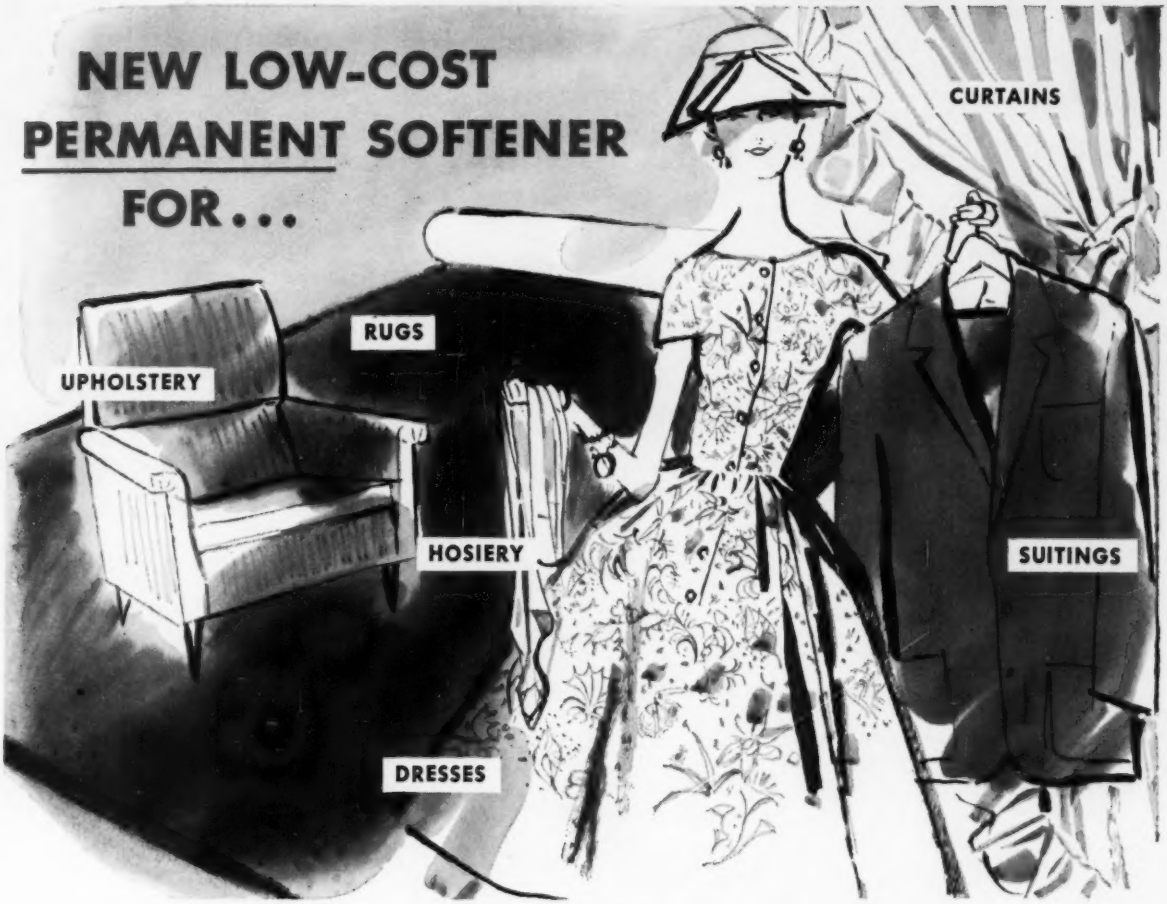

Emulsifiable
A-C® Polyethylene

OFFERS SUPERB "HAND" PLUS

- HIGHER ABRASION RESISTANCE
- IMPROVED TEAR STRENGTH
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- REDUCED NEEDLE CUTTING

Whatever fabrics you finish, you can benefit from the new textile finishes now being formulated with A-C Polyethylene.

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In wash-and-wear finishes, for example, A-C Polyethylene overcomes loss of "hand" and tear strength when used along with the thermosetting resins commonly employed in finishing wash-and-wear.

Write today for more information. Why not find out all about this new advance in textile finishing? Your textile chemical supplier either has an A-C Polyethylene finish on hand or can formulate one for your specific needs. Anionic, cationic and nonionic emulsions are available to fit all needs. (We are manufacturers of resins, not finishing emulsions.) Or write to us direct for complete information at the address below.

Allied Chemical

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Variable Speed Ring Spinning

Jumps Woolen Yarn Production 15% and More

As demonstrated at the 1958 Greenville Textile Show. For mill owners, managers, engineers and operators who demand greater productivity.

NOW AVAILABLE—For New or Present Model F's

Profit-minded management is quick to recognize the advantages of this new D&F Development of Variable Speed Spinning. Management is also quick to question, "why continue to operate at conventional spinning speeds," . . . when a new D&F Model F, with an Adjustable Variable Speed Motor Drive and other technological advances, can UP woolen yarn production 15% or more. Furthermore, the Model F's already in your mill can be modernized economically to approximate similar increases.

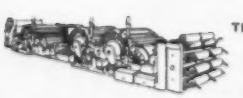
PROOF BY COMPARISON

Comparative Production Figures ("Standard Conventional Speeds Vs. Variable Speed"), previously published by Davis & Furber, show the type of daily increase in yarn production achieved in actual mill installations. Send for these production figures. Compare them with your own. See what these increases can mean to your own profit picture.

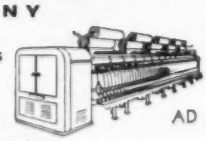
INVESTIGATION PAYS — GET THE FACTS NOW

Write us for the material available on "Variable Speed Ring Spinning for Woolen Yarns." Or call us direct for immediate action.

DAVIS & FURBER
MACHINE COMPANY



TEXTILE MACHINERY DESIGNERS AND MANUFACTURERS
North Andover, Mass.
Charlotte, North Carolina



AD 14-1

Member — American Textile Machinery Association

CARDS • SPINNING FRAMES • PREPARATORY MACHINERY • WARP DRESSING MACHINERY • FINISHING MACHINERY
MACHINERY MODERNIZATION • ACCESSORIES, SUPPLIES, CARD & NAPPER CLOTHING, GARNET WIRE, TAPES & APRONS
SPARE PARTS • TECHNICAL SERVICE & CONSULTATION

SHORTS & REMNANTS

(from page 10)

Montreal, P.Q.; **Dolan B. Frye,** Wiscassett Mills Co., Albemarle, N. C.; **Miriam Shiloh,** Institute for Fibres and Forest Products Research, Jerusalem, Israel; **P. W. Moore,** v-p—mfg., Riverside Silk Mills Ltd., Galt, Ont.; librarian, C. H. Masland & Sons, Carlisle, Pa.; **A. Marti,** le directeur technique, Institut Textile de France, Paris; **C. H. Bayley,** textile res. sect., National Research Council, Ottawa, Ont.; and dozens of others, including mill men, synthetic-fiber producers, professors at textile schools and other colleges, research institutes, and miscellaneous users of fibers and fiber products. We still have a few copies left, which are free on the basis of one per reader.

Wool Bureau Sheepish

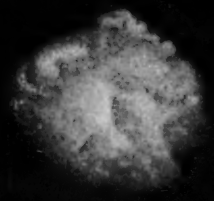
In September (page 6) we told you about all the hum-drum and flurry that was caused at San Angelo, Tex., when the young lady who was selected as Miss Wool turned out to be Mrs. Wool. Now, without further comment, the Wool Bureau has sent us a photo of Miss Carrell Currie, of Irving, Tex., and tells us that she is Miss Wool for 1960. But Miss Beverly Bentley (or Mrs. Kenneth McCormick) of Albuquerque, N.M., was originally chosen, and we can't help wondering what happened to her. Anyway, here's Miss Wool of 1960,

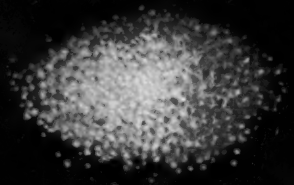
as of this writing, and she's a real lamb.

Captive Audience

" . . . 'The Supervisor and His Re-

People who use Allied UREA make it a habit!



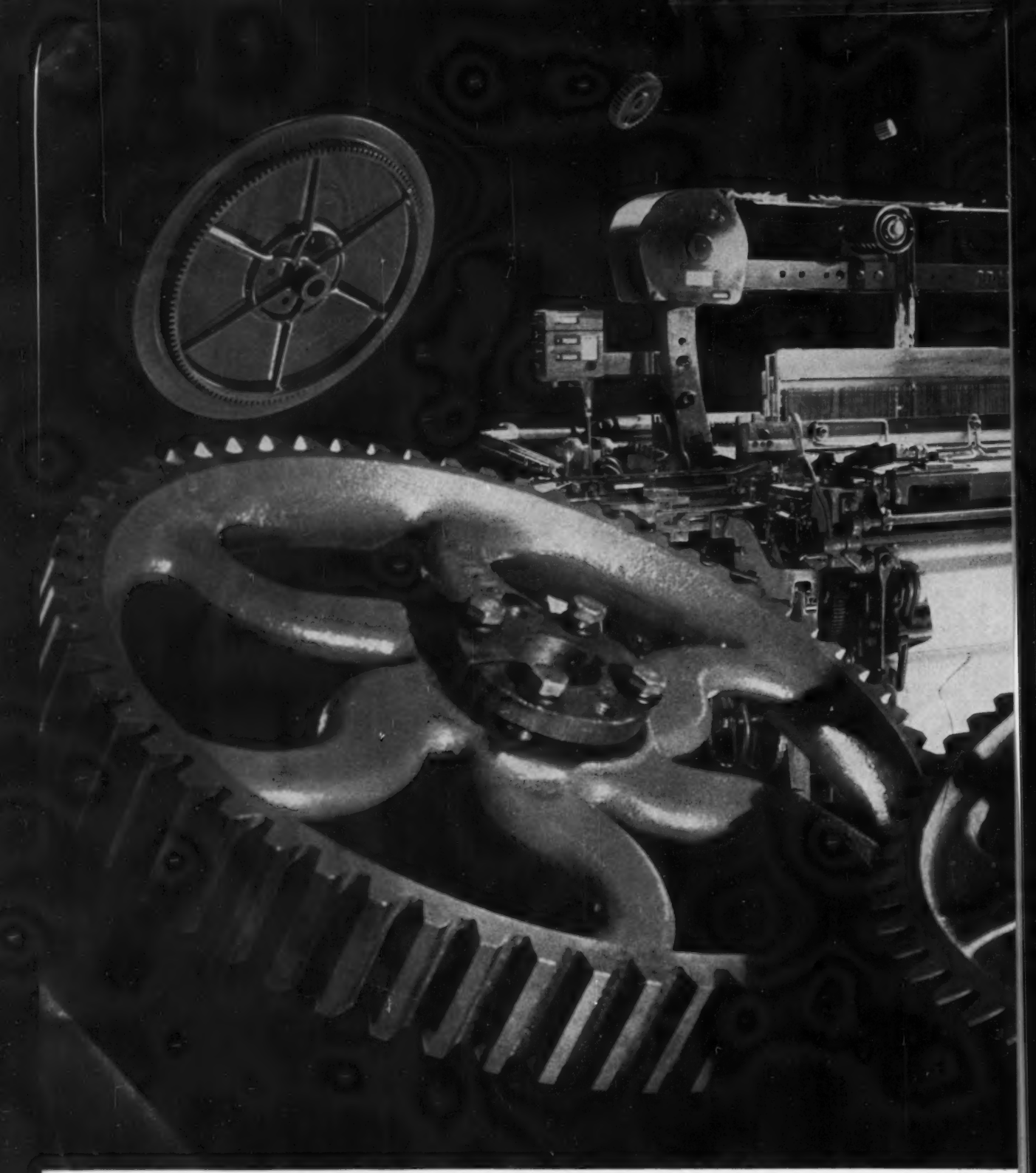


available in crystal and uncoated-pelleted form

BASIC TO AMERICA'S PROGRESS

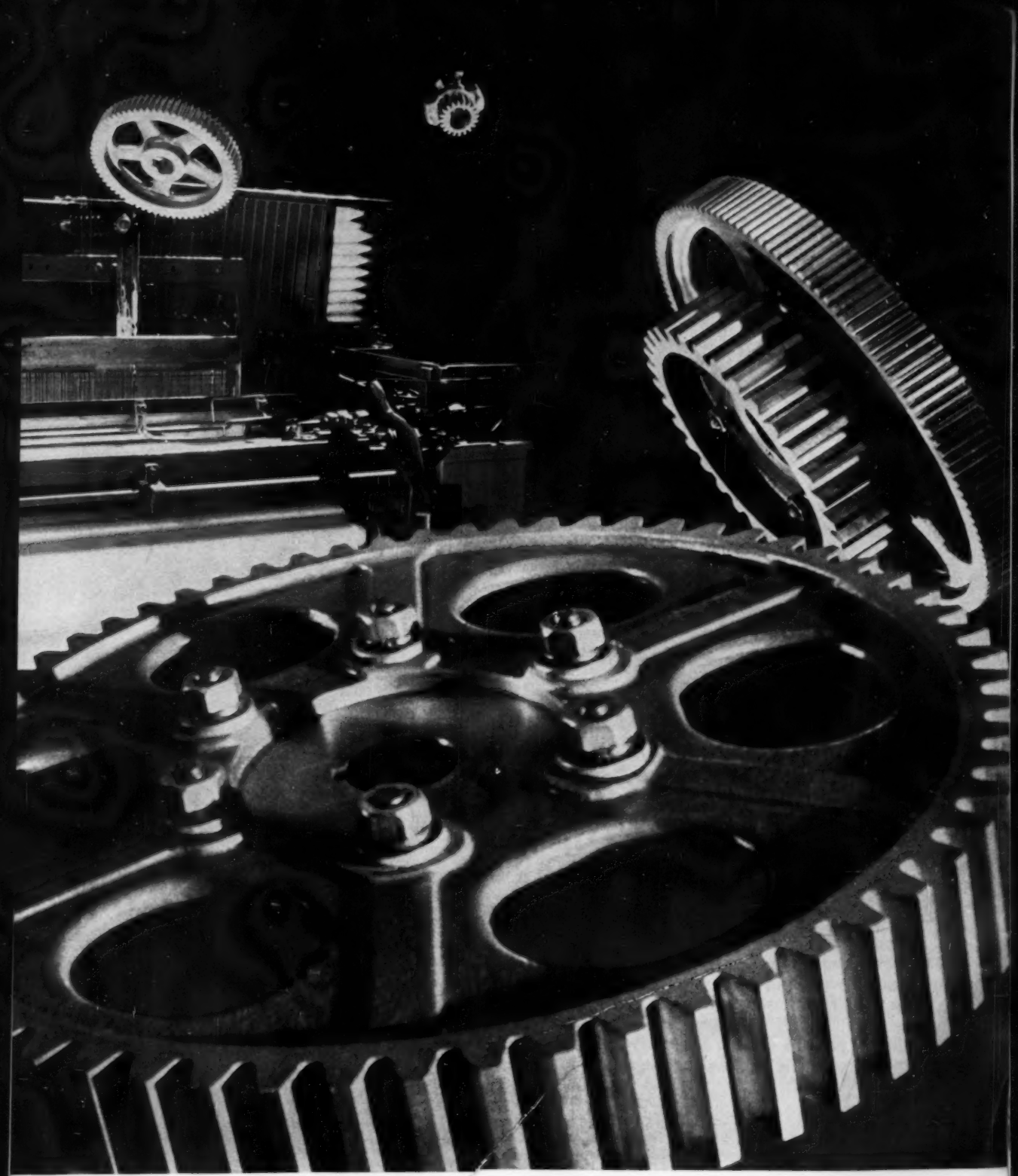
Allied Chemical

NITROGEN DIVISION
Dept. U5-29-2, 40 Rector Street, New York 6, N. Y.



There are over 30 gears on a Hi-Speed Draper X-2 Model Loom*. Each is of a different shape and size, and contributes in some way to the efficiency and operation of the loom. Draper gears are designed and manufactured to

*Average X-2 Model



fit the Draper Looms in your mill. Draper gears cost less . . . because they wear longer, reduce down time and increase loom production.

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.

yellow as gold

For color of unexcelled brilliance and durability, use GDC's INDANTHRENE YELLOW INFRA PASTES, premium quality Vat Dye pastes. The INDANTHRENE YELLOWS have attained great popularity and wide usage as the Vat Dyes of choice where yellow shades extending over the full color range are desired.

These uniform, finely divided pastes are readily dispersed and will not agglomerate in processing or in storage. The superior dispersibility of GDC's INDANTHRENE YELLOW INFRA PASTES results in less waste and increased dye yields. You can expect clean, brilliant, level dyeings from batch to batch, with the promise of fewer seconds and rejects.

The INDANTHRENE YELLOWS exhibit excellent light, wash and chlorine fastness, which makes them extremely useful in curtains, draperies, upholstery and a host of other critical end-uses. Their ease of application on all types of dyeing and printing equipment are just other reasons why you should try the INDANTHRENE YELLOWS in your dyeing operations.

GDC's INFRA PASTES are available as speck-free, non-settling, free-flowing pastes. Write or call for detailed information on these or any other dyes.

Outstanding in the wide range of INDANTHRENE YELLOW INFRA PASTES available to you, are:

INDANTHRENE BRILLIANT YELLOW 5GL INFRA PASTE
INDANTHRENE BRILLIANT YELLOW 3GL INFRA PASTE
INDANTHRENE YELLOW GGL INFRA DOUBLE PASTE
INDANTHRENE YELLOW PG INFRA DOUBLE PASTE
ALGOL YELLOW GC INFRA PASTE

FROM RESEARCH TO REALITY

gdc gaf

Indanthrene®

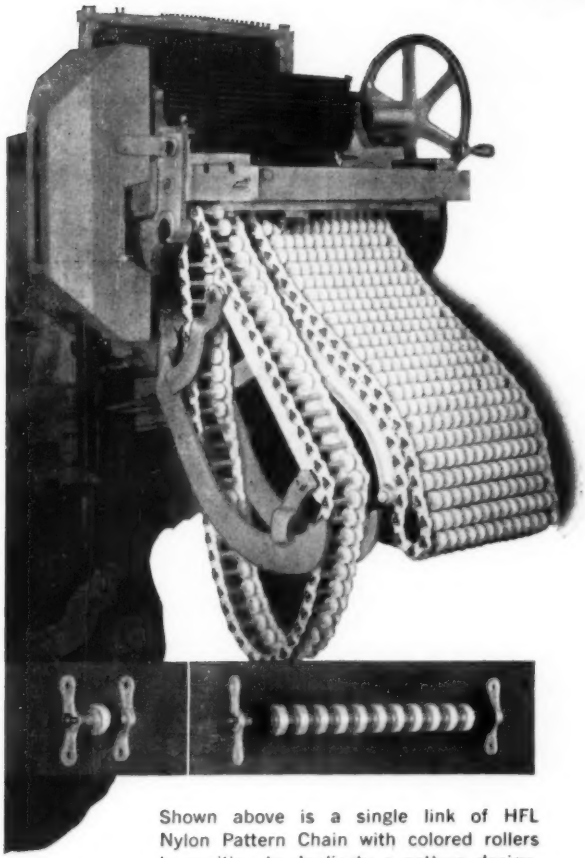
GENERAL DYESTUFF COMPANY
A SALES DIVISION OF
GENERAL ANILINE & FILM CORPORATION
435 HUDSON STREET • NEW YORK 14, NEW YORK
CHARLOTTE • CHATTANOOGA • CHICAGO • LOS ANGELES • NEW YORK
PHILADELPHIA • PORTLAND, OREGON • PROVIDENCE • SAN FRANCISCO
IN CANADA: CHEMICAL DEVELOPMENTS OF CANADA, LTD., MONTREAL

MEMBER VAT DYE INSTITUTE—INDANTHRENE DYES MANUFACTURED BY GENERAL ANILINE & FILM ARE SOLD OUTSIDE THE UNITED STATES AND CANADA UNDER THE TRADE NAME "FENANTHREN" BY DISTRIBUTORS ALL OVER THE WORLD.

another preferred loom part

HFL ENGINEERED

NYLON Pattern Chain*



Shown above is a single link of HFL Nylon Pattern Chain with colored rollers in position to duplicate a pattern design.

*PATENT PENDING

Reduces Weight 66%

Friction and wear are minimized on links, risers, and sinkers

Reduces Expense

Substantial savings are realized over cost of metal chain

Increases Efficiency

Permits use of colored, lightweight risers to simplify pattern changing

Consider these additional advantages: dimensional stability of all components is maintained; skips and smashes are eliminated; downtime due to pattern chain failure is eliminated; no lubrication is required. With an HFL Nylon Pattern Chain you can count on improved quality and increased production! Once again, Livermore Leadership has proved itself by presenting another preferred loom part to eliminate one more problem in the weave room.

Write for Nylon Pattern Chain Brochure–5

HFL IMPROVED LOOM PARTS

H. F. LIVERMORE CORPORATION

ESTABLISHED 1887

EXECUTIVE OFFICES & PLANT
BOSTON 34, MASS.

SOUTHERN DIVISION
GREENVILLE, S. C.

No matter where you are . . .

With Morton, you need only one salt supplier

There's no need to complicate your bookkeeping, risk shipping delays and quality differences just for the sake of having two salt suppliers. There's really no "safety factor" in it, either. For plant managers and purchasing agents in every field of industry are finding that it pays to buy all their salt from one supplier—Morton. It not only assures you salt of uniform quality, but Morton, the only nation-wide salt company, offers you many advantages you just can't get elsewhere.

Service in 49 states. Only Morton has 9 salt plants, warehouses and sales offices from coast to coast. This means Morton can offer you complete salt service whether you have just one plant or several plants in different states.

Any kind of salt you need. Morton produces, refines and delivers nearly 100 different grades of salt to industry for 14,000 different uses. This means you can get expert, *impartial* advice on which grade or grades will do the best job for you.

Dependable delivery. Because Morton has mines, wells, and solar ponds in more than one location, Morton is better equipped to make delivery from alternate plants even under adverse economic or other conditions that might endanger your plant's continuous operation.

Complete technical assistance. Morton backs its salesmen with the services of its salt research laboratory, the most complete laboratory of its kind in the world. While your Morton salesman can help you solve many of your salt problems—everything from recommending a different grade of salt to helping you plan a water-softening system or put in or modernize a brine installation—he can refer problems he personally can't solve to a Morton field specialist for quick, thorough analysis.

We think you'll find it well worth while to order all your salt from Morton. For complete information, write:

MORTON SALT COMPANY

INDUSTRIAL DIVISION

Dept. TI11, 110 No. Wacker Drive, Chicago 6, Illinois Telephone: FI 6-1300

Lint-tight
LOOM SWITCH

with important DESIGN LEADERSHIP features...

- Flush handle reduces possibility of damage or accidental operation. Easy to operate with simple up-and-down motion. Handle position clearly shows whether starter is ON or OFF.
- Over-center cam type cover latch provides heavy clamping pressure on neoprene sealing gasket.
- Vibration or shock conditions will not affect toggle mechanism.
- Simplified wiring. Line terminals at bottom for easy floor pedestal mounting.
- Plenty of wiring space. 1¾" top and bottom. ½" at each side.
- Cover is interlocked to prevent opening when starter is "ON."
- Protected type overloads permit group fusing of several motors on a single branch circuit.
- Mechanical linkage is provided to force contacts open with direct pressure from handle.

Write for Loom Switch Bulletin 2510-R.
Address Square D Company, 4041 N. Richards Street, Milwaukee 12, Wisconsin.

EC&M HEAVY INDUSTRY ELECTRICAL EQUIPMENT...NOW A PART OF THE SQUARE D LINE

SQUARE D COMPANY

Tennant-maintained floor in carding department of a large southern mill

Only the TENNANT System can keep your floors this clean

Chances are that your floors *can* look like this the year around . . . *if* you use the TENNANT SYSTEM.

And your maintenance costs will usually run less per year!

Floor seals last longer. Newly-developed TENNANT Floor Seals, specially designed for textile mills, last longer than any comparable materials we know of. This ends need for frequent recoating and reduces annual maintenance costs.

Makes floors easier to clean. The exclusive TENNANT process *actually increases dirt-resistance of the average textile mill floor by 300%.* Soilage wipes off easily . . . in a fraction of the usual time.

Keeps floors bright. The TENNANT SYSTEM'S exclusive cleaning techniques make it easy to keep your floor attractive month-after-month . . . even under heavy traffic.

You'll also enjoy added benefits in improved safety and employee efficiency when your mill is a bright, pleasant place to work in.

Your TENNANT Man is a qualified floor expert, ready to give free estimate of savings possible in *your* mill. For full information, write G. H. Tennant Co., 735M N. Lilac Drive, Minneapolis 22, Minn.

TENNANT

The Textile Industry's Most Widely Used

FLOOR MAINTENANCE SYSTEM

Methods

Machines

Materials

FLOOR MAINTENANCE SYSTEMS

SHORTS & REMNANTS

(from page 12)

sponsibilities' is of much interest to us. . . We intend putting these into the hands of our shop superintendents."

JOSEPH E. RAGEN
Warden
Ill. State Penitentiary
Joliet, Ill.

Reprint Requests

"Highlights of the Labeling Law" (Aug. 1959)—**A. W. Coombs,** gen. mgr., Dixiana Mills, Bennettsville, S. C.; **H. G. Harper,** partner, L. P. Muller & Co., Philadelphia, Pa.; **Robert N. Thurston,** PR mgr., Fabric Research Labs, Dedham, Mass.; **Donald Gill,** Beacon Looms, Inc., NYC; and many others.

"How to Quickly Find Count of 2-Ply Yarns" (nomogram, Sept. 1959)—**J. W. Miller, Jr.,** Sellers Mfg. Co., Saxapahaw, N. C.

"Waste Reduction and Control" (Oct. 1948)—**Barney M. Yates,** fiber utilization Dept., Deering Milliken Service Corp., Spartanburg, S. C.

"Weaving in 3-D" (July 1958)—**J. C. Hood,** Brunswick-Balke-Collender Co., Marion, Va.

"Quickly Find Warp Take-Up" (nomogram, May 1959) — **Carlos Chambon B.,** gen. mgr., Textiles Industriales S.A. de C.V., Mexico, D. F.

"How to Warp-Knit Bandages" (Aug. 1959)—**R. H. Gittel,** Tricotex Co. Ltd., Sherbrooke, P.Q.

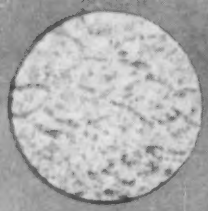
Wash-and-Wear

The picture below was sent to us recently by **Al Nuessle** of Rohm & Haas Co. He's the author of "Crease-

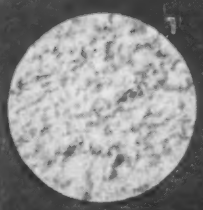
proofing Agents for Wash-and-Wear Finishing," which appeared in our October issue. The gentleman in the photo is **J. T. Marsh,** the scholarly English gentleman who was one of the inventors (in 1929) of the original creaseproofing process on which present-day wash-and-wear is based. With Mr. Marsh are Al's sons, Chris, Alan, and Larry Nuessle. And if you look closely, you can see Mrs.

OUTSTANDING FORMS!

FLAKE. Recently developed for users requiring a product that always flows freely. Dissolves rapidly. No extra cost!



REGULAR GRANULAR. Fast dissolving, yellow-white, crystalline material for a wide range of applications.



45-S GRANULAR. Similar to regular granular form, but preferable when greater resistance to caking in storage is desired.

OUTSTANDING PRODUCT!

U.S.P.

All three forms of anhydrous Solvay® Sodium Nitrite are top quality — U. S. P. All are available in 400-lb. and 100-lb. fiber or steel drums and 100-lb. bags.

SOLVAY SODIUM NITRITE

Sodium Nitrite • Caustic Soda • Calcium Chloride • Chlorine • Chloroform Caustic Potash • Potassium Carbonate • Sodium Bicarbonate • Soda Ash Ammonium Chloride • Methyl Chloride • Ammonium Bicarbonate • Vinyl Chloride Methylene Chloride • Cleaning Compounds • Hydrogen Peroxide • Aluminum Chloride • Mutual® Chromium Chemicals • Snowflake® Crystals • Monochlorobenzene • Ortho-dichlorobenzene • Para-dichlorobenzene • Carbon Tetrachloride

Allied Chemical

SOLVAY PROCESS DIVISION
61 Broadway, New York 6, N. Y.

SOLVAY branch offices and dealers are located in major centers from coast to coast.

SOLVAY PROCESS DIVISION EN-119
ALLIED CHEMICAL CORPORATION
61 Broadway, New York 6, N. Y.

Please send without obligation sample or samples as follows:

- ☐ Solvay Flake Sodium Nitrite
- ☐ Solvay Regular Granular Sodium Nitrite
- ☐ Solvay 45-S Granular Sodium Nitrite
- ☐ Include prices and name of nearest dealer

Name_____

Position_____

Company_____

Phone_____

Address_____

City_____ Zone_____ State_____

OUTSTANDING PERFORMANCE

—with TEXTILE DRY CANS

Patent No. 2,836,439

—equipped with

BARCO TYPE C Rotary JOINTS

- **CHROME PLATING GUARDS AGAINST WEAR**—A standard Barco feature at no extra cost. Minimizes corrosion, friction. Stainless steel spring also standard.
- **RESISTS SEAL RING BREAKAGE**—The spherical seal ring is under compression, not tension, loading. Self-adjusting for wear. Seal withstands shock loads and alternating hot and cold service.
- **WIDE SPACED BEARINGS**—Two, instead of one . . . increased bearing area. No lubrication required. Lowest friction.
- **200 P.S.I. STEAM RATING**—Heavy duty service at *no extra cost*. Eight sizes, ½" to 3".

THE above photograph shows a typical installation of sixteen NEW Barco Type C Rotary Joints on a dry can range. They run at speeds up to 100 RPM, handling 50 psi steam, on a three shift per day basis. All are fitted with syphon drain tubes and flexible connections to individual traps.

The big advantage offered by these new joints is ability to give perfect service month after month without service or attention. Dozens of mills have made comparative tests and are now using Barco. PROVE IT YOURSELF. MAKE THE TEST!

Let us send you complete information about Barco's new Type C Rotary Joints for Textile Machine Dryers, Slashers, Dry Cans, Sanforizers. *Catalog 310 on request.*

SEND FOR CATALOG 310

FOUNDED 1908 BARCO PRODUCTS BACKED BY EXPERIENCE

BARCO MANUFACTURING CO.
5741M Hough Street, Barrington, Illinois
The Only Truly Complete Line of Flexible Ball, Swivel, Swing and Rotary Joints
In Canada: The Holden Co., Ltd., Montreal

SHORTS & REMNANTS

(from page 20)

Nuessle and daughter in the background. The photo was made in the Nuessle home at Hatboro, Pa., last summer, during a visit by Mr. Marsh to this country.

Oui, Ma Petite Pidgin

"Alors si vous avez encore a livre in stock ["Full-Fashioned Hosiery Knitting"]"

CONRAD SANESAC

Princeville, P.Q.

► Oui, nous avons some more copies in stock. C'est available avec un subscription to TEXTILE INDUSTRIES.

Inside Darkest Africa

Wamsutta Mills recently ran an ad in the *New Yorker*, showing two girls modeling dresses made of Wamsutta fabrics. An icy Alaska scene was used as a background. Well, pretty soon Wamsutta's ad agency got a letter from the American consul in Mogadiscio, Somalia—one of the hottest spots in Africa—enclosing a check for $24.00 and asking for one size-12 version of the dress on the right. He got it, too, along with 25 cents change. "Why should we have our books messed up?" said an agency man.

Miscellaneous Wants

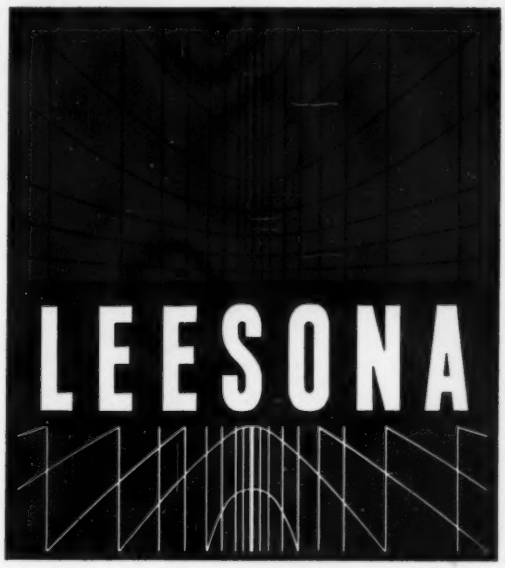
More information on items mentioned in "Recent Technical and Commercial Developments," **J. B. Goldberg's** regular column in TI—**Katherine Glass,** librarian, Callaway Mills Co., LaGrange, Ga.; **N. H. Chandler,** dir. res., Thor Mills Ltd., Granby, P.Q.; **Eugenio Llana,** mfr.'s rep., Havana, Cuba; and **A. O. Bourque, Sr.,** plt. mgr., Max Pollack Co., Inc., Gastonia, N. C.

Who makes the temple rolls described in the article, "Temple Rolls Are Little, But . . . " (TI for July 1959)—**K. E. Ephraim,** Lendt & Co., Inc., NYC. That's V. B. Splawn & Son, 310 Third St., Burlington, N. C.

More data on methods described in article, "Needle Pointing Has Its Points" (TI for Sept. 1959)—**W. G. Littlefield,** supt., American Thread Co., Tallapoosa, Ga.; **B. K. Gallman,** overseer, J. P. Stevens & Co., Jonesville, S. C., plant; and **A. Lee Ward,** supt., Postex Cotton Mills, Post, Tex.

Further information on several ads in Sept. 1959 issue—**J. K. Whittaker,** exec. v-p, Modiglass Fibers, Inc., Bremen, O.

Copy of file folder of 48 swatches prepared by American & Efird Mills (TI for Aug. 1959, p. 77)—**Arthur Brook,** pres., Empire State Mills Inc., L. I. City, N. Y.



A new name ... a new look

We've changed our name from UNIVERSAL WINDING COMPANY to LEESONA CORPORATION . . . simply because we've *outgrown* the old name. Our product line now extends far beyond winding machines . . . and our research staff continues to develop new textile machinery that will improve processes, eliminate waste, reduce costs, and make possible better quality. Look for our new trade-mark shown here. It stands for the finest in modern craftsmanship . . . textile machines that can improve *your* operations.

LEESONA

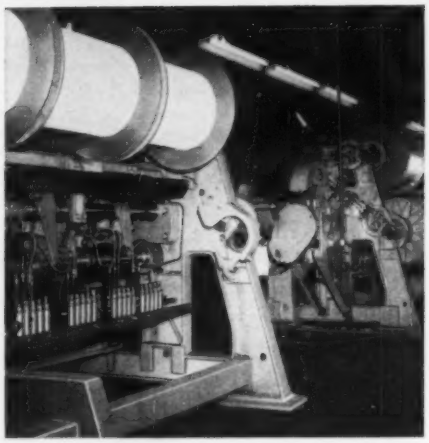
LEESONA CORPORATION, P. O. Box 1605, Providence 1, Rhode Island

Slash costly down time . . . boost your yield with

Lincoln **LUBRICATION SYSTEMS**

WHEREVER WHEELS TURN . . . wherever it is necessary to maintain a film of lubricant on bearing surfaces . . . there is an application for Lincoln Lubricating Systems and Devices. From automated production lines to the simplest machinery . . . designed for a new installation or existing equipment . . . there is a Lincoln Lubricant System to meet your particular needs.

SPECIFY LINCOLN and you choose from the most complete line on the market. A half-century of engineering "know-how" stands behind every Lincoln product.

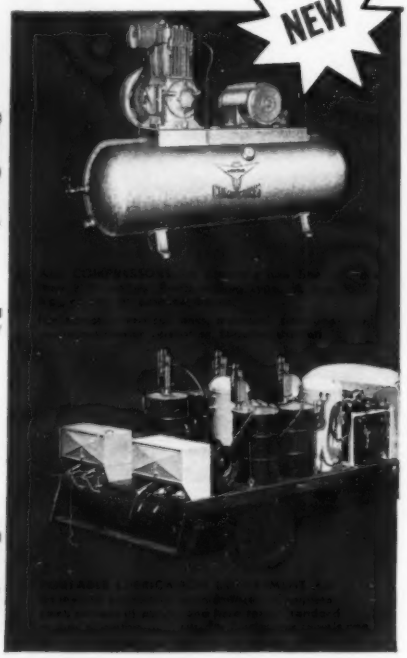


KONIT MILLS installed Lincoln Automatic Centralized Lubrication Systems on their Tri-Cot Knitters with these spectacular results . . . production increased 22%; power consumption cut 20%. The entire Lincoln system actually paid for itself in 90 days.

POWER-OPERATED DRUM PUMPS (for original 120-lb. or 400-lb. drums)—Complete selection of air motors and pump tubes . . . all popular pressure ratios.

HOSE REELS (for grease, oil, air and water services)—Heavy duty, spring-actuated.

MATERIALS DISPENSING SYSTEMS (power-operated for pail, spray or flo gun applications)—Complete systems for original 400-lb. drums or 5-gal. packages.



PORTABLE POWER LUBRIGUNS* (electric or air-operated)—Lube capacities from 30 lbs. to 60 lbs.

*Reg. U.S. Pat. Off.

Let us show you how PRODUCTIVE lubrication maintenance can cut YOUR costs

Write today—or call

Coast-to-Coast Sales and Service Through 16 Branch Offices and Leading Industrial Distributors

Lincoln

MEADOWS *Anti-friction* TWISTERS

ARE PILING UP AMAZING RECORDS

AT WORK IN TEXTILE MILLS . . . .

--AND HERE'S WHY:

ANTI-FRICTION: Ball bearings in all gear end studs, roll stands, individual drive pulleys, tension pulleys. Lifter rod bushings replaced with anti-friction rollers. Even the builder motion is anti-friction.

HIGH SPEED: They run at much higher speeds with less horsepower and maintenance, and with fewer ends down.

STURDY CONSTRUCTION: Steel construction of frame, base rails, roller beams, ring rails, head and foot ends, doors.

VERSATILE: They can be equipped to run combed, carded or filament sales yarn; carpet yarn; paper; tire cord (ply or cable). The same basic twister, with minor alterations can be used to handle any or all of these.

QUALITY YARN: Smoother running lets Meadows-equipped mills produce yarn of a superior quality, with economy that is substantial.

RANGE: Bobbins build from 8 to 13 inches. Gauge and ring size as you require, from the smallest to the largest.

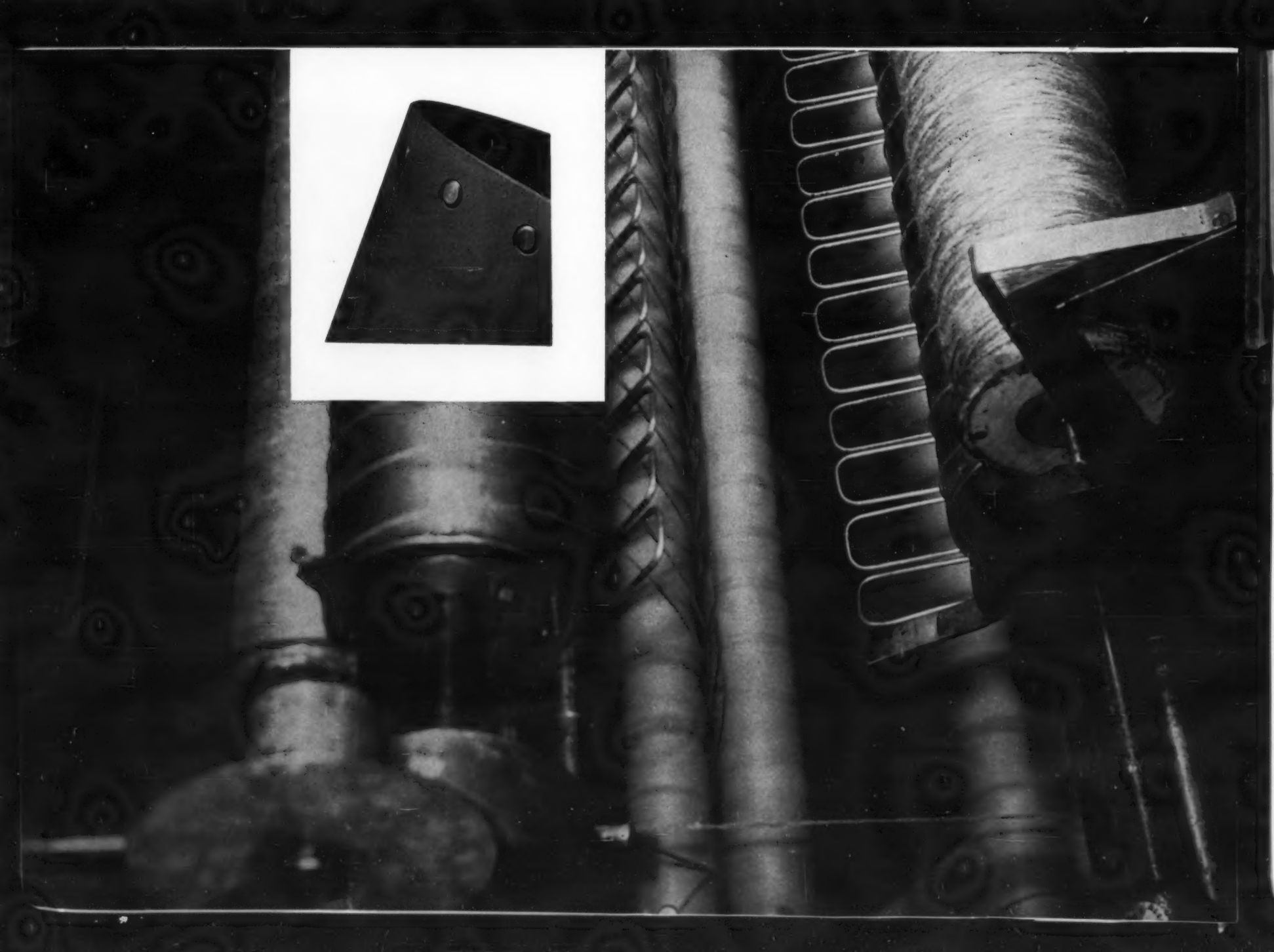
Bring Your Twisting Problems To Us.

MEADOWS MANUFACTURING CO.

Established 1931

ATLANTA 10, GEORGIA

Write us, P. O. Drawer 10876 **Phone us Plaza 5-1663** **Visit us, 1190 Astor Ave., S. W.**



Along with a 30% increase in yarn uniformity

Dayco Rub Aprons

Give you more yarn per card

DOWNTIME'S UNNECESSARY when you use Dayco Rub Aprons. Now you can strip your cards faster . . . because Dayco Rub Aprons require no oiling . . . and save up to $25 an hour. Trouble-free Dayco Rub Aprons practically do away with even routine maintenance . . . which means they virtually pay for themselves in added production.

TOUGH, 2-PLY Dayco Rub Aprons are doubly reinforced with longer wearing, rubber-impregnated fabric. This extra strength construction gives the apron greater flexing stamina and reduces eccentric motion by 33%! Buttons can't help but stay fixed in an apron body as tough as the Dayco 2-ply.

YARN QUALITY IMPROVES as much as 30% because the texture of Dayco Rub Aprons never varies! Having the highest co-efficient of friction available, Dayco Rub Aprons never slick or glaze, are immune to changes in temperature and humidity, and are unaffected by emulsion oils which cause surface growth in other aprons.

NO NEED TO ADJUST trouble-free Dayco Rub Aprons. Perfectly concentric, they hug the rolls tightly for accurate tracking and assure positive, non-slip drive at all times. Longer wearing, they have an extra-deep synthetic surface with built-in resistance to the abrasion that results from constant rubbing.

DAYCO ENDLESS CONDENSER TAPE

Features offering additional savings . . . greater card efficiency:

- No stretch—little need for take-ups
- Less tendency to twist or turn over
- Easy to clean—require less attention
- Unaffected by oil or static
- Will not crack, economical, efficient

Get the facts. Ask about actual cost-savings with Dayco Rub Aprons the next time the Dayco representative calls. Or write the Dayton Rubber Co., Textile Div., 401 S. C. National Bank Building, Greenville, S. C.

Dayton Rubber

Dayco and Thorobred Textile Products for Better Spinning and Weaving

©D. R. 1959

OVERSEAS PLANT, THE DAYTON RUBBER CO. LTD., DUNDEE, SCOTLAND

MODERN DYEHOUSE EQUIPMENT

THE DEPENDABLE KWG SKEIN DYEING MACHINE

KWG Double Reel Skein Dyeing Machine —all stainless steel unit built in capacities to 1000 pounds.

FOR QUALITY DYEING
WITHIN INCREASED BUT MORE NORMAL TEMPERATURE and PRESSURE LIMITS

Perfection in dyeing—for natural and the new synthetic fibers—is yours with KWG Skein Dyeing machines. Rugged construction . . . improved 'Ferrous-Wheel' performance . . . give you the penetration and evenness of color—the permanence of tone—for that extra measure of sales appeal—without concern for costly high-temperature, high-pressure methods. Dual-operations possible including scouring, dyeing and shrink-proofing, or scouring, bottom bleaching and dyeing of pastel shades.

You can point the way to extra sales . . . extra profits . . . today by writing Klauder Weldon Giles. A KWG representative will be glad to survey your needs. If necessary, he'll design special equipment to your specifications. There's no obligation.

Klauder Weldon Giles MACHINE COMPANY

ADAMS AVENUE & LEIPER STREET • PHILADELPHIA 24, PA.

For further information use Handy Return Card, Page 183

SHORTS & REMNANTS

(from page 22)

After Hours

The gentleman with the big grin at the left below is **Joe B. Denson,** of Fashion Craft, Dalton, Ga. And the reason he's grinning is that he

won first prize in the skeet shoot at the Chattanooga Yarn Association's annual outing recently. What's more he scored a perfect 50/50 to do it. At the right is **Leon Young,** Kayser-Roth Hosiery Co., Dayton, Tenn., who was runner-up.

And below, in the usual order, are **Felmont Eaves,** Athens (Tenn.) Hosiery Mills, and **Dick Thomas,** Roxbury Southern Mills, Chattanooga, Tenn., who won first and second prizes, respectively, in the golf tournament. As far as we can see, the prizes on display are the same in each photo, so we can't tell you what each of these gentlemen won.

THE NEED: Strong, non-returnable cores for heavy denier nylon

For winding heavy denier nylon yarn, exceedingly strong, non-returnable cores were required. These cores had to be capable of withstanding the constrictive force of the yarn which could cause the core to bind on the spindle, making it hard to doff. Furthermore, the cores had to be strong enough to withstand any wall compression, which might occur after winding, since this would interfere with the delivery of the yarn. These cores also had to possess a surface which would prevent slippage in the primary winding.

Sonoco sales engineers, along with the research and development departments, immediately undertook to solve this complex problem. The solution was found through the right combination of paper, adhesives and core construction. As a result, cores which meet and exceed the demanding requirements are now available from Sonoco.

Only Sonoco, with 60 years' experience, plus modern research and completely integrated manufacturing facilities, could solve this problem quickly. It is typical of countless cases where Sonoco technical and production "know-how" has benefited the industry. *Let Sonoco experience help you!*

sonoco

Our 60th year
1899 - 1959

SONOCO
Products for Textiles

SONOCO PRODUCTS COMPANY

Main Office—Hartsville, S. C. • Mystic, Conn. • Akron, Ind. • Lowell, Mass. • Phillipsburg, N. J. • Longview, Texas • Philadelphia, Pa. • La Puente, Cal. • Fremont, Cal. • Atlanta, Ga. • Granby, Quebec • Brantford, Ontario • Mexico, D. F.

IT'S FIRST! — IN
SKEWED WEFT CORRECTION!

BECAUSE IT'S Electro Mechanical not OPTICAL

IT'S THE MILL-TESTED

Mount Hope

SKEW Automatic LINER

THE CHOICE OF PROFIT-WISE MANAGEMENT!

Mill executives know that profits depend upon low-cost, trouble-free production — particularly the elimination of skewed weft problems. Leading mills have tested the Mount Hope SKEW LINER, with its Electro-Mechanical Detection System, and have found it far superior for handling all weights of materials from sheers to many decorative fabrics.

The Mount Hope SKEW LINER is being used by leading Finishing plants in all textile areas. Representative plants in these areas are:—

Sayles Finishing Plants, Inc.
Sayles Bleacheries Division
Saylesville, Rhode Island

Cranston Print Works, Inc.
Cranston, Rhode Island

Sayles Biltmore Bleacheries, Inc.
Biltmore, North Carolina

Riegel Textile Corporation
Ware Shoals Division
Ware Shoals, South Carolina

Waumbec Dyeing & Finishing Co.
Manchester, New Hampshire

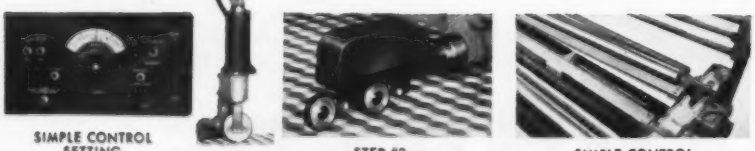
Waldrich Company
Delawanna, New Jersey

Southern Bleachery & Print Works, Inc.
Taylors, South Carolina

—and many others.

Their experience with this modern, sensitive, truly-automatic detection system suggests that you write *today* for literature giving FACTS and PROOF that it can cut your costs.

STEP UP!—TO POSITIVE SKEWED WEFT ELIMINATION!



SIMPLE CONTROL SETTING

SIMPLE DETECTION STEP #1 — SIGNAL ROLLS

STEP #2 — SENSING ROLLS

SIMPLE CONTROL ACTION

Write for the facts, to —

Mount Hope

MOUNT HOPE MACHINE COMPANY, INC.
56 FIFTH STREET • TAUNTON, MASS.
Plants at Taunton, Mass. and Charlotte, N. C.

PERSONAL NOTES

A. W. Bell of American and Efird Mills, Inc., Mount Holly, N. C., was named president of the Combed Yarn Spinners Association at the organi-

L to r: Shannon M. Gamble, retiring president; Mr. Bell, and Mr. Myers.

zation's annual meeting at Sea Island, Ga. **J. L. Barnett** of South Fork Manufacturing Co. and Perfection Spinning Co., Belmont, N. C., was named first vice-president; **A. G. Myers, Jr.,** of Textiles, Inc., second vice-president.

Stiles S. Dixon, formerly executive vice-president of Mooresville (N. C.) Mills, has accepted a new assignment in the main office of Burlington Industries, Inc., Greensboro, N. C. * * * Appointed to succeed Mr. Dixon was **William deR Holt, Jr.,** formerly manufacturing manager of the grey goods operations of Mooresville.

Chicopee Manufacturing Corp. recently named **S. E. Bagley** general manager of the nonwoven division, with headquarters in Milltown, N. J. **Donald Parker,** manager of the company's Bensenville, Ill., plant, has succeeded Mr. Bagley as manager of the North Little Rock, Ark., plant.

Charles H. Dickinson, Jr., has been promoted from superintendent to general manager of Charlottesville (Va.) Woolen Mills.

Alvin A. Gerlach has joined the men's and children's hosiery division of Burlington Hosiery Co. Mr. Gerlach is director of designing and styling for the merchandising area of Burlington Hosiery's branded line

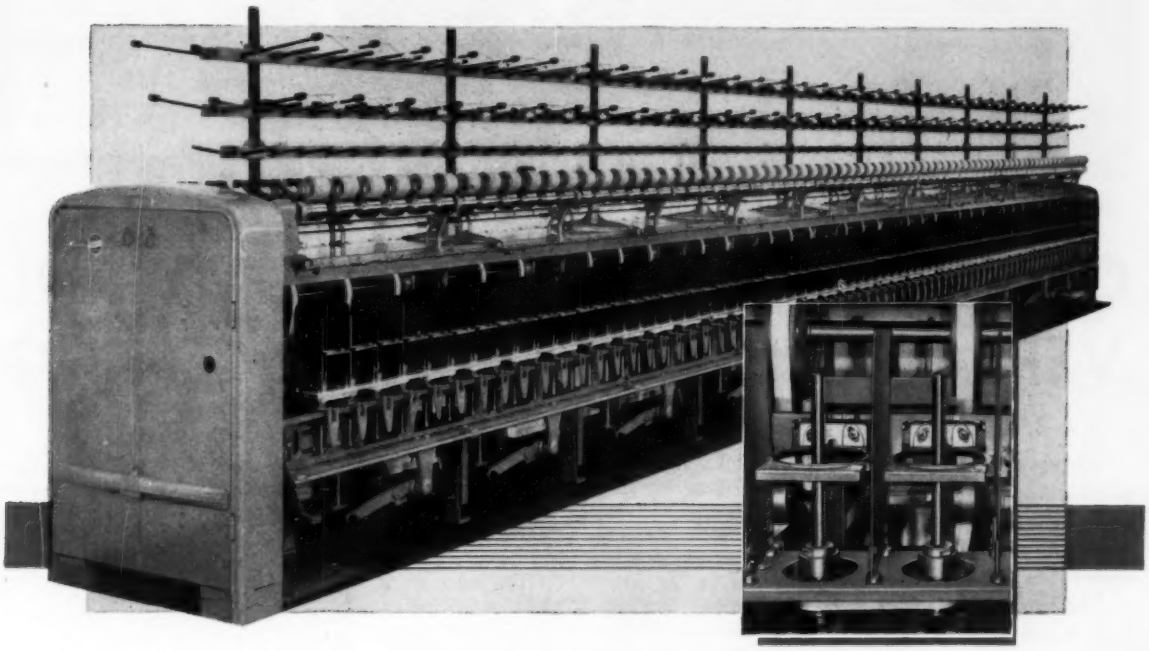
Continued on page 36

Give
The UNITED Way

Introducing

the PACEMAKER* P3

A NEW Twister for highest possible production on low twist synthetic yarns



The new Whitin "PACEMAKER" Model P3 Ring Twister has many unique features which provide for maximum twisting efficiency and lowest possible cost. It is capable of operating at exceedingly high speeds which makes it especially attractive for mills processing low twist synthetic yarns. This is definitely *the* twister for forward looking, profit-minded mills!

Examine these outstanding features — many of them exclusive with Whitin:

- ★ **Head end — entire gear train mounted on antifriction bearings — laminated bakelite gears combined with metal gears for quiet operation**
- ★ **Feed rolls — 3" or 4" dia. boss type-hardened steel, heat treated, with chromium plated finish, mounted in grease packed ball bearings**
- ★ **Top rolls — aluminum cot with cork or Accotex covering**
- ★ **Spindle drive — 4-spindle group drive — steel pulleys on ball bearing mounted through shafts — Whitin-SKF b. b. tape tension pulleys**
- ★ **Stationary bottom plate over spindles — insures yarn cleanliness and supports full length separators**
- ★ **Ring rail construction — magnesium rail supporting ring holders having Whitin patented Micrometer adjustment**
- ★ **Rings — up to 5", choice of several auto-lubricated types**
- ★ **Spindles — latest Whitin SUPASONIC, HZ 55 or 66, depending upon bobbin weight — either internal or external brake — an outstanding new development in spindle design**
- ★ **Winds — square bottom differential taper top, square bottom taper with straight builder, and P-1 differential double taper wind on straight pirn**

*TRADEMARK

These are only a few of the many features. For complete information, ask your Whitin representative, or write to —

WHITIN MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

DOW

What's new and what's news IN TEXTILE CHEMICALS

Contrary as it may seem, news is not always about the new. In the field of textile chemistry, the excitement may concern an *old* friend which has suddenly taken on new importance. That's why these news notes will bring you facts about new *developments* in established chemicals, just as often as they will tell you about new chemicals. This month, three old standbys in a new light . . .

You may wish to check certain items in this advertisement and forward to those concerned in your own company.

ROUTE TO:

_____

_____

_____

_____

CHELATING AGENTS: ECONOMY AND VERSATILITY IN TEXTILE PROCESSING

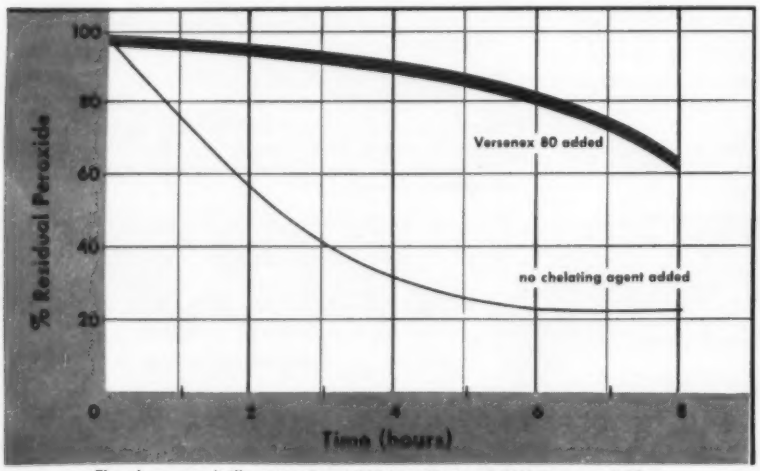
Wherever a manufacturing or processing operation uses water, metallic ions can be a costly problem. In many textile finishing operations, Dow chelating agents do the important job of eliminating troublesome metallic ions cheaply and effectively to benefit the textile operator.

Textile people have long known, of course, that chelation was the most effective way of taking care of metal ions that often have caused streaking and staining or even weakening of fibers. The problem, until recently, was one of economy.

The Dow chelates—Versene®, Versenol® and Versenex*—have countless applications in the textile industry. If metal ions are a problem in dyeing, scouring, stripping and desizing operations, the answer is Versene 100 in solution form or Versene Flake or Powder (EDTA Na_4).

If ions of iron or other heavy metals are complicating peroxide bleaching operations, they can be inactivated by Versenex 80 in solution form (DTPA Na_5). In applications such as kier boiling combinations of chelating agents are available to solve special iron problems.

If you use water, you may need chelates. Wherever a manufacturing or processing operation uses water in any form, the problem of metallic ions is likely to exist. The surest, safest way to fight that problem is with chelation. And, thanks to the work of research men within the textile industry itself, new uses for the chelates are regularly being discovered. Dow representatives are working closely with them and are offering helpful suggestions in many areas of application research.

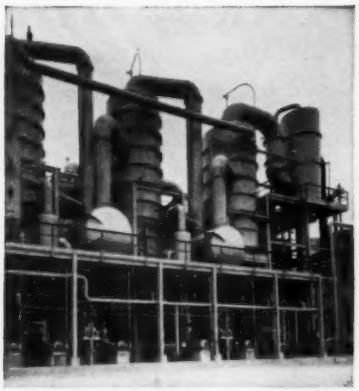


The above graph illustrates the stabilizing effect of 0.01% Versenex* 80 on a typical textile bleach bath containing 0.25 ppm copper contamination.

OTHER DOW

PENTACHLOROPHENOL

New 12 page booklet—"Low-Cost Pole Buildings for Industry"—describes in detail low costs and long lasting benefits of penta-treated pole buildings. Write for copy today!



SIX KINDS OF CAUSTIC
From 13 Distribution Points

From 4 different producing plants and 9 additional terminal points, Dow distributes caustic soda whenever and wherever it's needed.

Dow caustic is available in solution, solid and flake form. Moderate to large users find *50% solution* requires minimum handling, has low price. A *73% solution* must be diluted and cooled before storing but is much easier to handle than dry caustic. Very economical for large users.

Solid caustic is the least expensive of the dry forms but requires more handling—ideal for smaller users distant from production points. *Regular flake* is best for those buying 400 lbs. or less at a time. Many alkali users find *¼" flake* suits them best. Dustless, free-flowing *ground flake* compounds easily with other materials and many formulators prefer it.

★ ★ ★ ★

For additional facts on Textile Chemicals, write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Chemicals Merchandising Department 987FZ11.

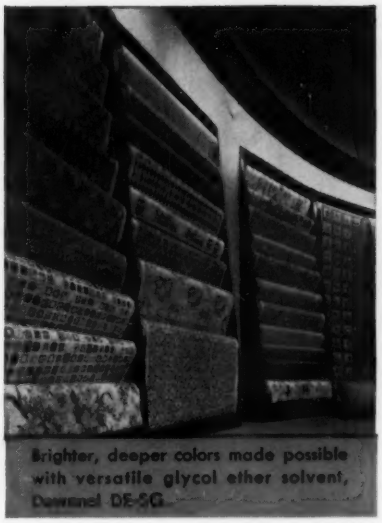
Remarkable dye solvent cures indigo blues

Manufacturers concerned with textile dye solvent problems, especially where indigo-type dyes are involved, are finding that Dowanol® DE-SG provides an extremely apt solution in a great many cases.

Dowanol DE-SG is a modified version of Dowanol DE (diethylene glycol ethyl ether). Used as a solvent with pastes containing alkyds, it controls evaporation and aids penetration and leveling.

A small quantity of Dowanol DE-SG greatly increases the solubility of the dye and manufacturers, particularly those who use indigo-type dyes, will also be pleased by the brighter colors and reduced crocking obtained.

In another application, Dowanol DE-SG, used with triethanolamine, produces in denims a color shade approximately 15 per cent deeper than can be achieved through the usual dyeing methods. A typical textile dyeing formulation would include 10 ounces of indigo powder, 27 ounces of Dowanol DE-SG, 14 ounces of triethanolamine and 100 gallons of sulfite liquor.



Brighter, deeper colors made possible with versatile glycol ether solvent, Dowanol DE-SG

Dow's new 52-page Dowanol booklet will give you complete information on uses, analytical methods, toxicological and handling data on Dowanol compounds (the industry's widest line of glycol ether solvents). The booklet is available now. Please request it on your letterhead.

*TRADEMARK OF THE DOW CHEMICAL COMPANY

DOW CHEMICALS

BASIC TO THE TEXTILE INDUSTRY

Glycol Ethers • Alkalies • Thickeners • Industrial Glycols
Glycerine • Chelating Agents • Ion Exchange Resins • Preservatives
Solvents • Polyols • Latexes

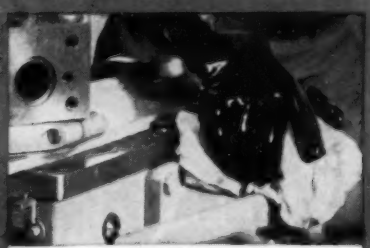
THE DOW CHEMICAL COMPANY
Midland, Michigan

DOW

CHEMICALS OF TEXTILE INTEREST

LATEXES

From carpeting to wall covering applications, Dow latexes are providing longer life and cutting manufacturing costs. Bring your coating problems to Dow.



CHLOROTHENE

Used for spray, bucket, dip or wipe cleaning, Chlorothene® (Dow 1, 1, 1-trichloroethane, inhibited) is the *safer* industrial solvent for cleaning machinery, tools and small parts.

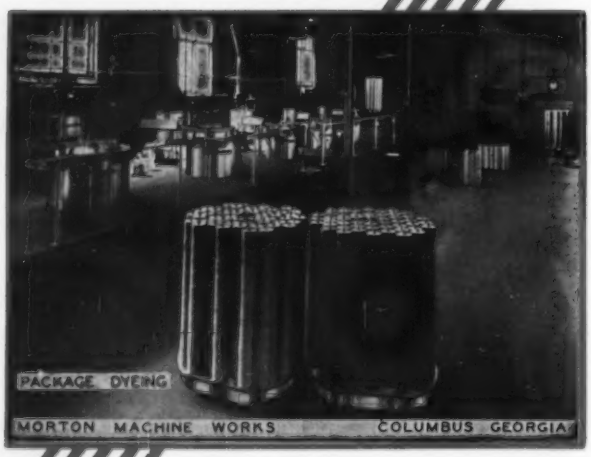
SODA ASH

Dow can offer important savings on mixed shipments of soda ash and caustic soda. Write to Dow for free book on properties, uses, handling and storage of soda ash.

FOR THE MOST SATISFACTORY DYEING EQUIPMENT INSIST ON THE

MORTON SYSTEM

THE FINEST MONEY CAN BUY



It pays to look into the quality of the machine and the quality of the work it will produce.

Whatever your requirements in stock, package, as well as beam dyeing machinery, a Morton System dyeing machine is your best bet.

Have one of our engineers call to discuss your problem.

MORTON MACHINE WORKS, Inc.

COLUMBUS, GEORGIA, U. S. A.

Manufacturers of the MORTON SYSTEM Machinery for Dyeing and Bleaching of:
BEAMS -:- PACKAGES -:- STOCK -:- PIECE -:- TOPS

VALVES — PUMPS — BEAM AND PACKAGE EXTRACTORS AND DRYERS — DYE BEAMS, ALL MAKES AND DESIGNS — DYE TUBES— DYE SPINDLES — TUBE SPACERS — STAINLESS STEEL DYE TUBES — CUSTOM BUILT TANKS TO CUSTOMER'S SPECIFICATIONS

AIR MOVING PROBLEMS? "BUFFALO" CAN HELP!

You can profit by conferring with our qualified field men regarding your needs in:

- Air Moving
- Air Conditioning
- Air Cleaning

"Buffalo" builds a full range of air moving equipment. Large central system centrifugal fans. Duct-eliminating roof ventilators and make-up air units. Special fans for corrosive fumes and other severe applications. Space-saving axial flow fans for confined-area exhaust.

Your nearby "Buffalo" representative is an experienced expert in solving air moving problems. A graduate engineer, he is thoroughly factory-trained. His years of field work cover almost every type of application.

Phone your "Buffalo" engineering representative, or write us direct for full information. Remember, "Buffalo" can help you get the *most* from air moving equipment!

"Buffalo"

BUFFALO FORGE COMPANY

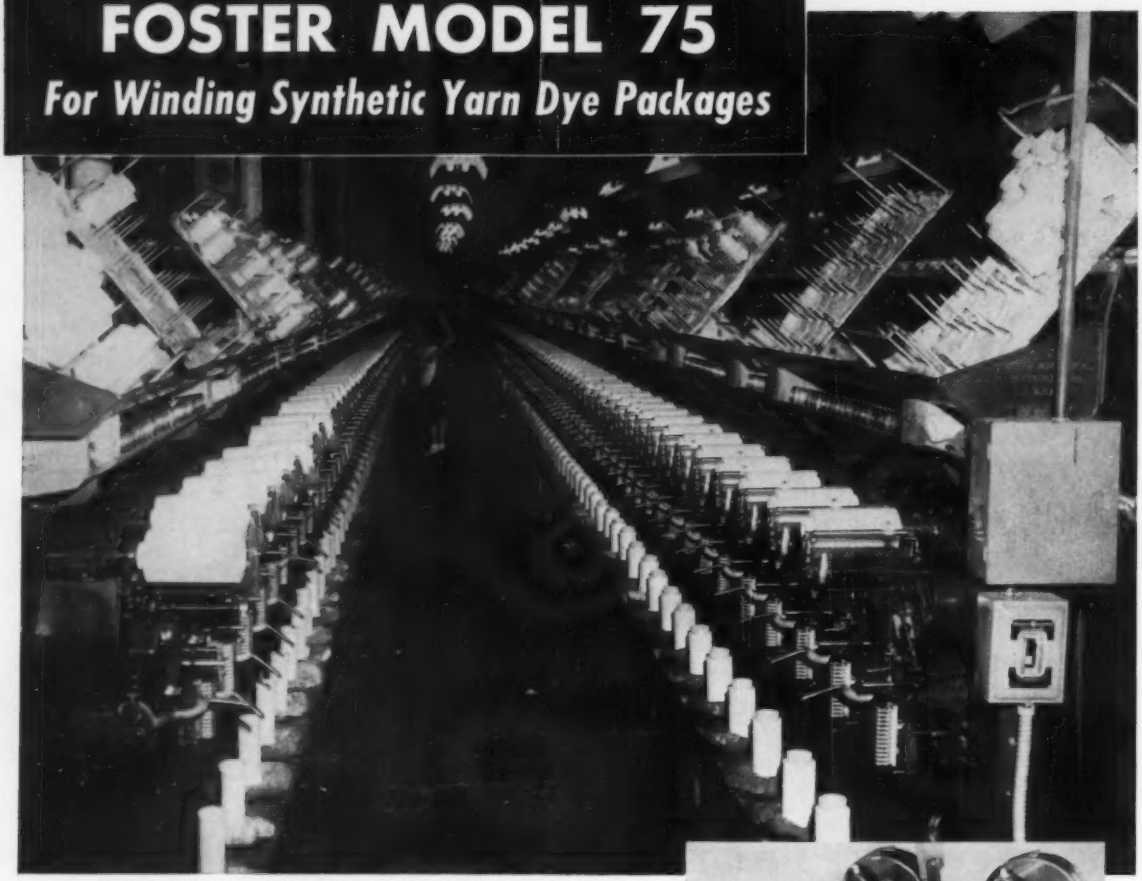
Buffalo, N. Y.

Buffalo Pumps Division, Buffalo, N.Y. • Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

VENTILATING • AIR CLEANING • AIR TEMPERING • INDUCED DRAFT • EXHAUSTING • FORCED DRAFT • COOLING • HEATING • PRESSURE BLOWING

FOSTER MODEL 75

For Winding Synthetic Yarn Dye Packages



Package winding installation at Elmore Corporation, Spindale, N. C.

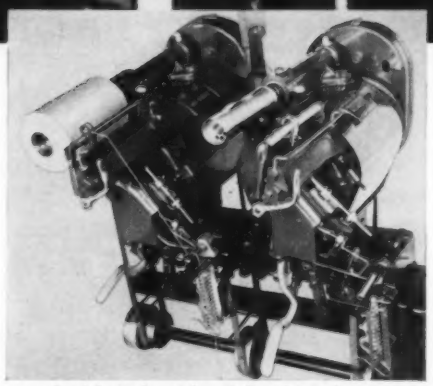
2 FEATURES THAT PROMOTE BETTER DYEING

One feature is the special attachment which accurately controls the density of the package, thus permitting extra softness. This extra softness compensates for the tendency of the yarn to pack and swell when wet and permits ready penetration of the dye liquor.

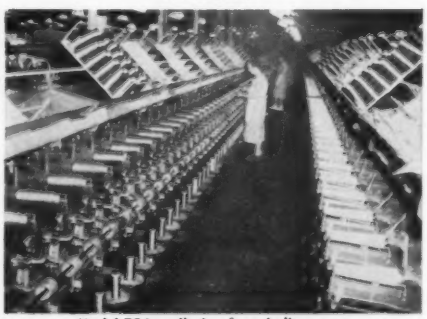
The other feature is the open or honeycomb winding pattern, instead of a diamond pattern. This again promotes free circulation and thorough penetration by the dye liquor.

OTHER ADVANTAGES

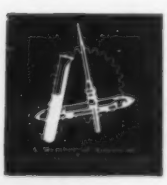
The Foster Model 75 has other basic advantages which make for maximum utility and high production at low cost, such as:—convertibility for cone winding, ball bearings, non-wear spindle drive, yarn oiling attachment (optional), gear gainer attachment, relatively high winding speed (up to 1500 r.p.m.) and 180° belt contact on each spindle.



Special attachment for winding dye packages on Model 75.



Model 75 installation for winding cones at Elmore Corporation.



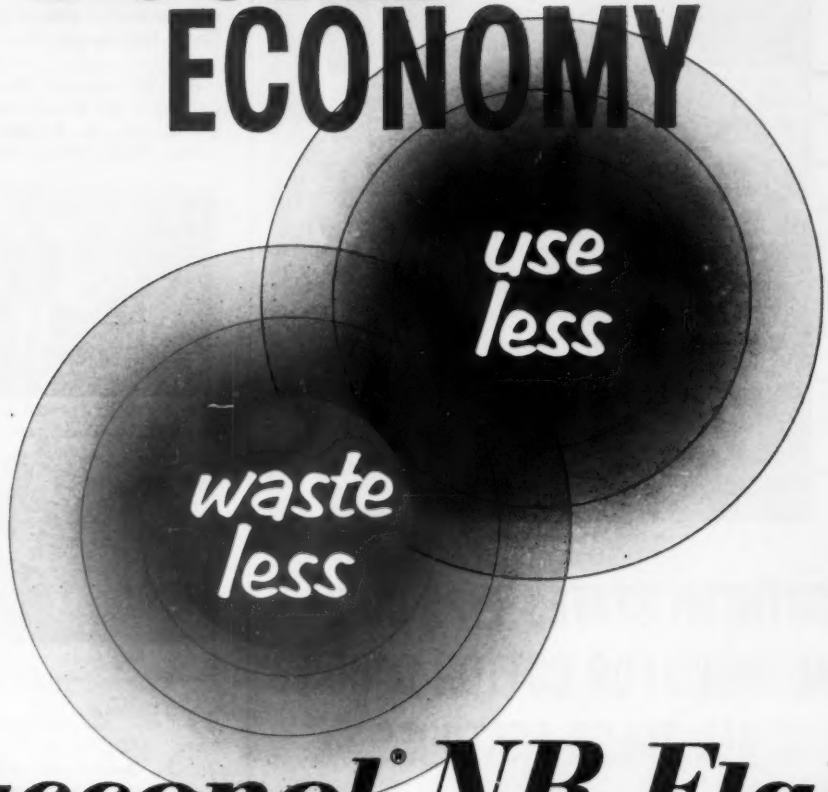
FOSTER MACHINE COMPANY

Westfield, Massachusetts, U.S.A.

Southern Office, Johnston Bldg., Charlotte, N. C. • Canadian Representative—Ross Whitehead and Co., Ltd., 2015 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ontario • European Representative—Muschamp Textile Machinery (Sales) Limited, Elder Works, Wellington Road, Ashton under Lyne, Lancashire, England.

636-8

DOUBLE ECONOMY



Nacconol® NR Flake!

40% ALKYL ARYL SULFONATE

Here's an extremely efficient surface active agent that saves you money *two* ways in scouring, wetting, emulsifying and other wet processing operations.

You *use* less because NACCONOL® is effective at low concentrations.

You *waste* less because dosages can be accurately determined. NACCONOL's uniformity, stability to pH and processing chemicals . . . plus the absence of efficiency-destroying insoluable hard-water soaps . . . all add up to consistent action, day after day.

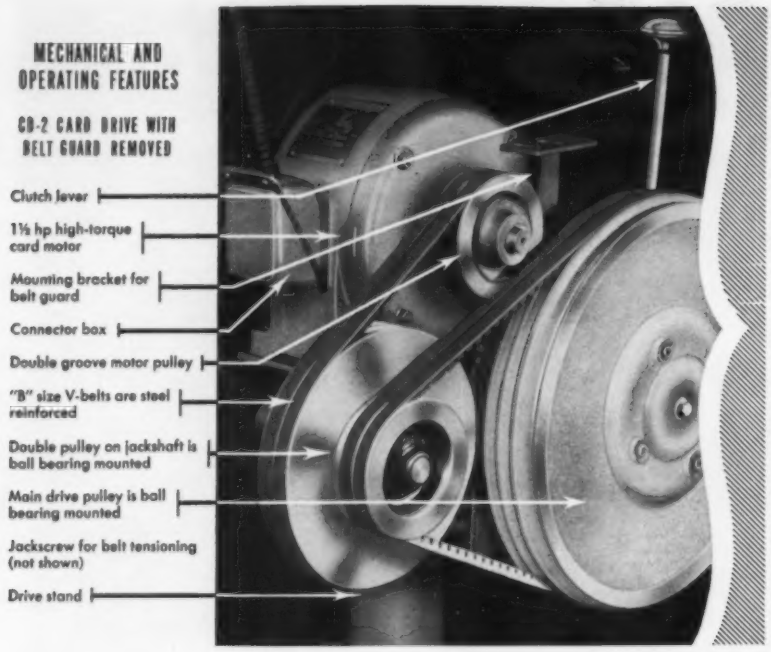
Our nearest office will be glad to supply samples of NACCONOL NR and these other outstanding textile detergents:

NACCONOL SL Liquid
NACCONOL DB Dense Beads
NACCONOL DBX Super Dense Beads

Allied Chemical

NATIONAL ANILINE DIVISION
40 Rector Street, New York 6, N. Y.

Atlanta Boston Charlotte Chicago Greensboro Los Angeles
Philadelphia Portland, Ore. Providence San Francisco
In Canada: ALLIED CHEMICAL CANADA, LTD., 100 North Queen St., Toronto 18
Distributors throughout the world. For information:
ALLIED CHEMICAL INTERNATIONAL • 40 Rector St., New York 6, N. Y.


MECHANICAL AND OPERATING FEATURES
CD-2 CARD DRIVE WITH BELT GUARD REMOVED
Clutch lever
1½ hp high-torque card motor
Mounting bracket for belt guard
Connector box
Double groove motor pulley
"B" size V-belts are steel reinforced
Double pulley on jackshaft is ball bearing mounted
Main drive pulley is ball bearing mounted
Jackscrew for belt tensioning (not shown)
Drive stand

ONLY SOUTHERN STATES TYPE CD-2 INDIVIDUAL DRIVE FOR COTTON CARDS OFFERS ALL THESE FEATURES

The CD-2 Individual Card Drive is the simplest, safest, and most efficient drive on the market today. It combines into one unit the features most wanted by mill men when specifying a drive for cotton cards. Here is why:

Finger-Tip Control: No changes in operating procedure. The unit is controlled by a simple clutch lever in both starting and hand stripping.

Full Speed in Seconds: A 1½ hp high torque card motor smoothly brings the card into full operation, seconds after the clutch is engaged.

Safety Engineered: All belts and moving parts are covered. Starting and idling is accomplished by the clutch lever. Stripping is done in the conventional manner.

Rugged Construction: The entire unit is built for heavy-duty service: steel main stand; cast iron jackshaft bracket and main pulley; cast aluminum cover; ball bearing construction throughout.

Easy Installation: Fits any cotton card. Minimum number of holes to drill in frame. Drive pulley, collar and clutch are preassembled and slip on shaft using existing keyway.

See your Southern States representative for all the facts, or you may write direct for Bulletin 301-a.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

PERSONAL NOTES

(from page 30)

and maintains his office at Balfour Hosiery plant in Asheboro, N. C. He was formerly with Phoenix Hosiery Co. in Milwaukee, Wis.

At the annual meeting of the Carded Yarn Association held at Sea Island, Ga., **L. E. Bowen** of Tifton Cotton Mills, Tifton, Ga., was named

L to r: A. J. M. Wannamaker, retiring president, Mr. Bowen, and Mr. Moretz.

L to r: Mr. Austin and E. O. Fitzsimons, executive vice-president of the organization.

president. **O. Leonard Moretz** of Carolina Mills, Maiden, N. C., and **W. R. Austin** of Avondale Mills, Sylacauga, Ala., were elected first and second vice-presidents, respectively.

John V. Cauthen, formerly of the Osage Div. of Reeves Bros., Inc., Bessemer City, N. C., has assumed his duties as manager of Fayetteville (N. C.) Fabrics, a Burlington Industries facility.

American & Efird Mills, Inc., Mount Holly, N. C., has appointed **Edwin J. Yowell** to the newly created post of technical director of the industrial sewing thread division. Mr. Yowell had been associated with Singer Sewing Machine Co.

C. B. Little, manager and coordinator of production, purchasing, and product development for The American Thread Company's spun synthetics division in Willimantic, Conn., recently resigned and accepted a position with Federal Spinning Corp. * * * **H. S. Verrill** has been promoted to superintendent in charge of manufacturing for the spun synthetics division, and **Frederick Ellis** has been named assistant superintendent of cotton finishing. * * *

Superintendents **G. L. Hodges** of the Newnan (Ga.) mill; **J. D. King**, of the Dalton (Ga.) mill and **W. G. Littlefield** of the Tallapoosa (Ga.) mill have each assumed responsibility for the operation of his respective mill. * * * **L. David Garratt** has been named head of the cotton division succeeding **Daniel W. O'Neill** who is in semi-retirement, continuing to serve the company on a consultant basis.

United States Rubber Company has announced the appointment of **Leonard D. Swearingen** as sales engineer in the industrial textiles department of the textile division in New York City. * * * **Dr. Robert A. Gregg** has assumed his duties as research manager of the textile division.

Dr. Martin Chanin has joined the School of Textiles faculty at Clemson (S. C.) college as professor of textile chemistry; **Maurice Goldemberg** has filled a new position as associate textile chemist; **Edward S. Olson** has been named a research assistant in the department of textile research, and **Henry H. Perkins** has become graduate assistant in textile chemistry. Dr. Chanin was formerly a research chemist in Memphis, Tenn.; Mr. Goldemberg was associated with United Piece Dye Works, North Charleston, S. C.; and Mr. Olson was with Deering Milliken Research Corp.

Thomas O. Moore, vice-chairman of the board of the P. H. Hanes Knitting Co., has been named chairman of the board of trustees of the new Forsyth General Hospital to be built in Winston-Salem, N. C.

Dominion Textile Company, Ltd., Montreal, Canada, has announced five promotions as follows: **David W. Johnston** has been appointed to the newly created position of executive assistant to the vice-president of manufacturing; **Raymond Charlebois** has been named plant manager of the Drummondville division, and **Gordon Shaw** has assumed his duties as superintendent of the Sherbrooke branch; **Spencer Howcroft** has succeeded Mr. Shaw as superintendent of Magog cotton mill; and **Raymond Nicol** has been named assistant superintendent of the Gault mill of The Montreal Cottons Ltd. to fill the vacancy created by elevation of Mr. Howcroft.

United Merchants & Manufacturers, Inc., has announced the reassignment of three superintendents

Continued on page 189

SOUTHERN STATES' NEW COILER LINE HAS ALL ENGINEERING AND DESIGN FEATURES WANTED BY MILL MEN

To provide mills with a premium-quality coiler, every engineering and design feature wanted by mill men has been included on the new Southern States Coilers.

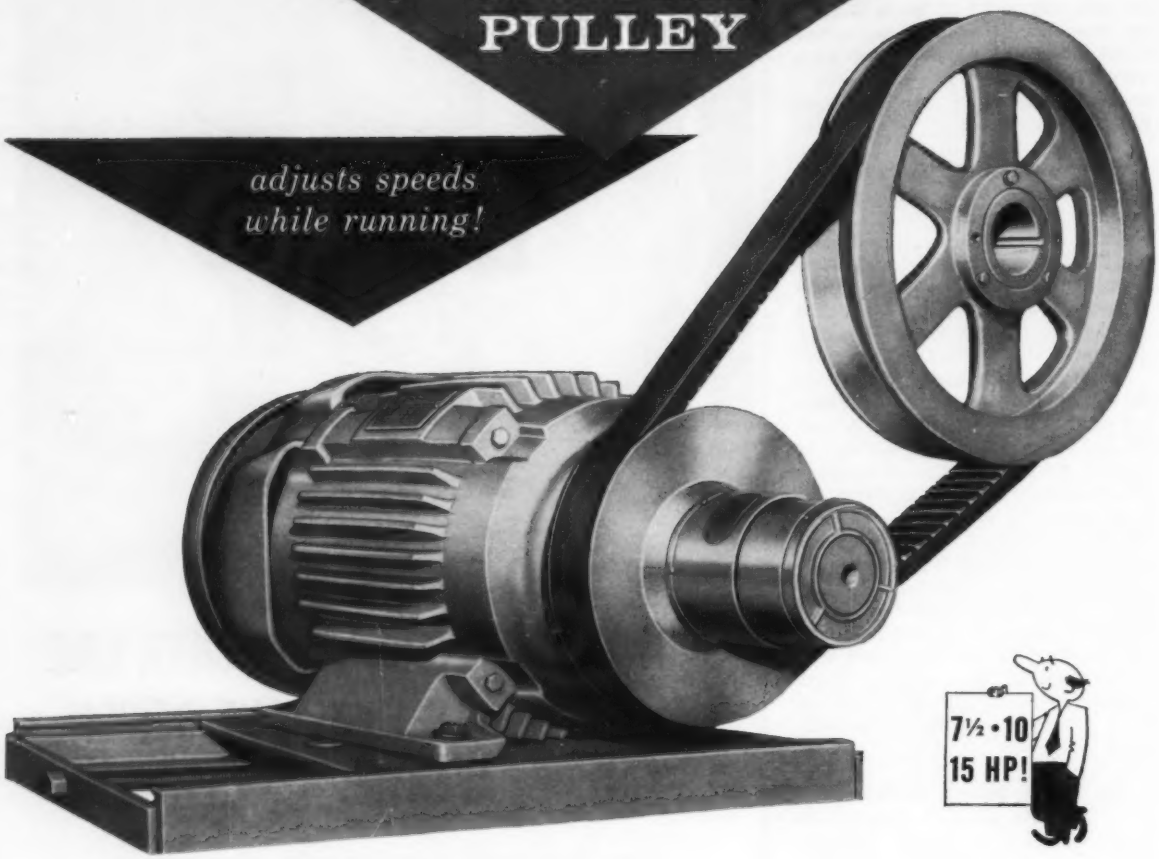
A new center adapter (see cutaway view above) permits the stand, head, and base to swivel as a unit within the adapter collar. The coiler may thus be offset for can diameters up to 20 inches and still maintain a straight gear drive take-off for coilers of all makes.

Southern States Coilers are designed for direct attachment to any make of card, left or right hand. Installation is rapid and economical. Other outstanding features of the Southern States Coiler include: ball bearing throughout—head, shaft, cantable ... cut tooth gears throughout ... tubular steel stand ... precision-ground calender rolls ... self-aligning pillow blocks on upright and calender roll shafts ... fully adjustable can table ... quickly detached coil spring roll-loading device ... and many others fully described in our Technical Bulletin 205, available from your Southern States representative or by mail direct from us.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

New Low Cost TEXTILE PULLEY

adjusts speeds while running!



REEVES® *vari-spin drive*

new belt Field-tested, specifically designed 2″ rib belt. Flexible, high resistance to heat, oil and moisture. Long life under continuous rated load.

new base Low cost. Rugged welded steel. Minimum height. Easily adjustable.

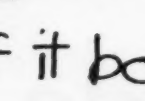
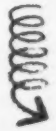
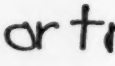
● Speed settings in 2:1 range are accurately made in seconds —*while the frame is operating.*

A low cost unit, the compact 975-T features REEVES' exclusive "close grooving" for positive lubrication . . . free sliding shifting action.

Contact your nearest REEVES or RELIANCE representative, or write for complete details in Bulletin T37-G586-1.

for a wider speed range, 3 to 1, fixed center drive, write also for details on REEVES No. 16-10 Vari-Spin Drive . . . through 15 hp. Ask for Bulletin T37b-G561-1.

REEVES PULLEY COMPANY
Division of **RELIANCE** ELECTRIC AND ENGINEERING CO.
Dept. No. 2011A, Columbus, Indiana

If it rolls on an axle or turns in a bearing or rides on a shaft if it slides in a groove or moves on a pivot  if it bores  or cuts  or transmits pressure

one of Sinclair's 500 specialized lubricants is designed to make it work better. For answers to your lubrication problems, write today to

SINCLAIR REFINING COMPANY

Technical Service Division
600 Fifth Ave, N.Y. 20 N.Y.

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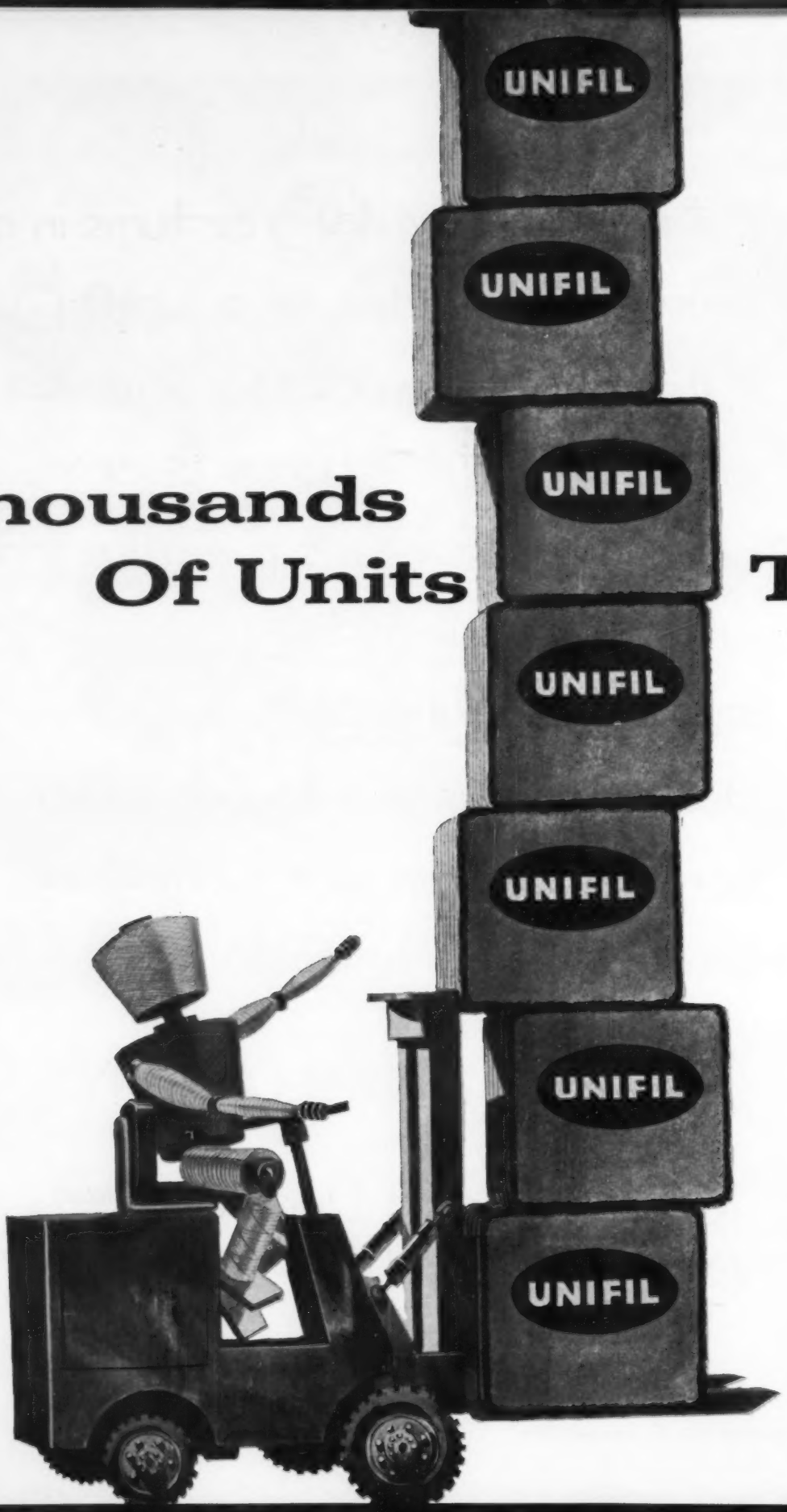
Thousands Of Units To



Leading Textile Mills...

More and more modern mills are turning to UNIFIL® Loom Winders as the proved approach to better economy and higher productivity. Most of these mills first learn about the outstanding advantages of UNIFIL Loom Winders through a Leesona "Profit Factor Analysis". This detailed analysis of filling yarn preparation methods, carried out by Leesona Engineers, shows mill management exactly how UNIFIL Loom Winders can prove these analyses correct . . . and reorders follow *fast!*

This extra performance by UNIFIL Loom Winders is what you can expect . . . they bring the entire process of filling yarn preparation to the loom. UNIFIL Loom Winders provide all the advantages of weaving-from-a-cone . . . on all counts and types of yarns, both cotton and synthetic. For example, they greatly improve the quality of fabrics woven from fine yarns . . . give fabrics with textured yarn filling a uniformity not possible before. And savings in production costs quickly pay for UNIFIL Loom Winders.

Let a "Profit Factor Analysis" show you how UNIFIL Loom Winders can improve weaving and profits in *your* mill. Ask your Leesona Sales Engineer in Boston, Philadelphia, Charlotte, Atlanta, or Los Angeles. In Canada: Montreal or Hamilton. Or write LEESONA CORPORATION, P. O. Box 1605, Providence 1, Rhode Island.

Here are just a few of many modern mills which are saving with UNIFIL Loom Winders:

AMEROTRON CORPORATION
BERKSHIRE HATHAWAY INC.
BURLINGTON INDUSTRIES, INC.
CANNON MILLS CO.
BEMIS BRO. BAG CO.
PONEMAH MILLS
DRAYTON MILLS, INC.
JUDSON MILLS
UNITED MERCHANTS & MFRS., INC.
GLEN RAVEN SILK MILLS, INC.
EXPOSITION COTTON MILLS
GREENWOOD MILLS
FRANK IX & SONS, INC.
MARION MFG. COMPANY
WILLIAM SKINNER & SONS
J. P. STEVENS & CO., INC.

LEESONA

Versatility with Any Filling Supply

UNIFIL *is a registered trade-mark of Leesona Corporation*

Now—F-M Spiro-duct cooling!

Spiro-duct double-end system: In standard motor shown, air enters shaft end and discharges between feet on conduit box side of motor. Conversely, air entering free end discharges opposite conduit box. In motor with conduit box located opposite to standard position, direction of air flow is reversed in relation to drive shaft location.

Spiro-duct moves cooling air in clockwise spiral direction, through space between stator core and motor frame.

Cools entire core and winding regardless of direction of rotation!

From the research and development laboratories of Fairbanks-Morse comes Spiro-duct cooling—the most effective design available for positive cooling of Dripproof motors—available now in F-M rerated KZK motors, in frames 364U through 445U.

Two completely independent paths for cooling air are provided in the Spiro-duct double-end system. All portions of the stator core and winding are thus assured equal cooling, regardless of direction of rotation.

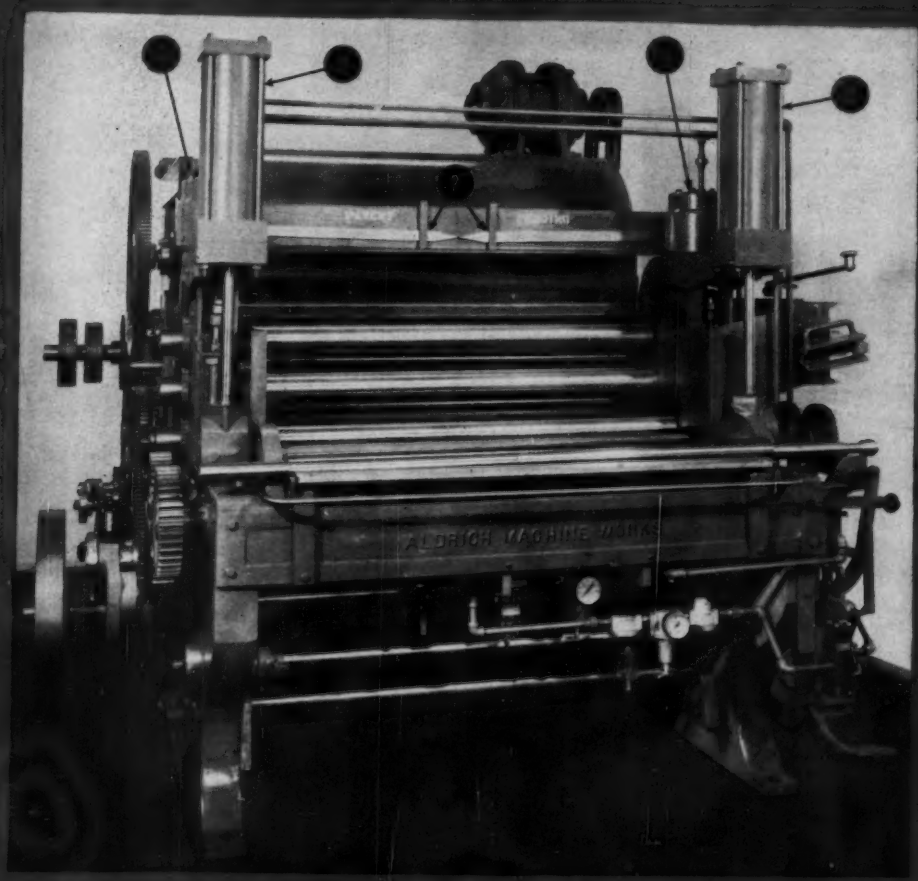
With completely redesigned and improved enclosure as well as ventilating system, Fairbanks-Morse offers an exceptionally cool motor with maximum protection against falling particles or dripping liquids.

For expert assistance in specifying, write Fairbanks, Morse & Co., 600 South Michigan Ave., Chicago 5, Illinois. Fairbanks-Morse motors include all types in alternating and direct current, in ratings from ½ to 10,000 HP.

FAIRBANKS-MORSE

a name worth remembering when you want the BEST

ELECTRIC MOTORS • GENERATORS • PUMPS • SCALES • DIESEL, DUAL FUEL AND GAS ENGINES • LOCOMOTIVES • COMPRESSORS • MAGNETOS • HOME WATER SYSTEMS



The ALDRICH HIGH COMPRESSION CALENDER

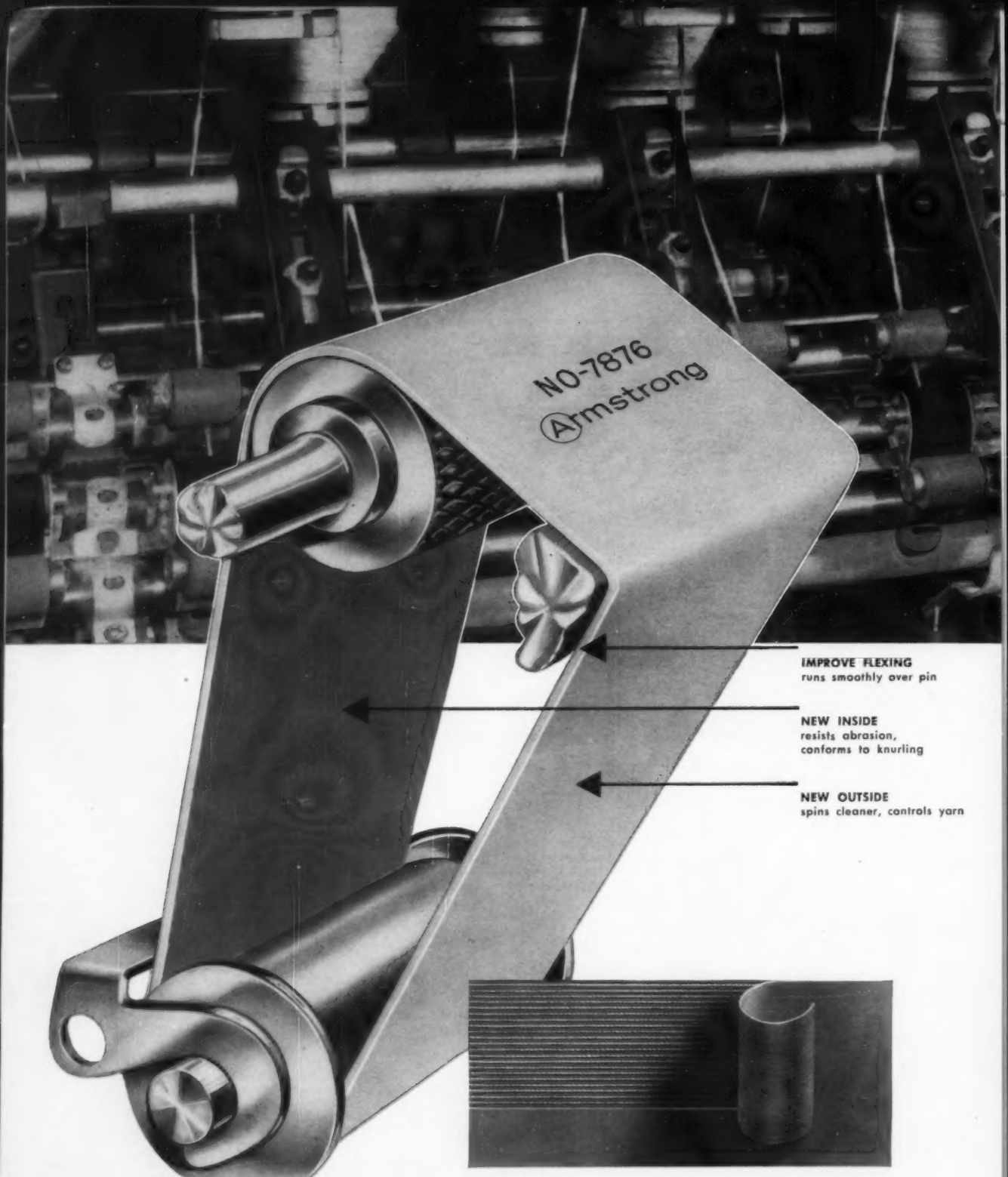
1 Diaphragm air cylinders apply resilient pressure upon Meehanite calender rolls, stronger and smoother than ordinary gray iron. Resilient pressure gives more uniform calendering, and protects the calender from shock loads. All pressure is released each time the calender stops, and is instantly applied when it starts. This is very important on some synthetics.

2 A constant lap weight indicator which shows the variations in the lap as they go through the calender, and not hours later on a separate test. With this indicator you test the lap as you make it, and can instantly detect any tendency to a big-ended lap.

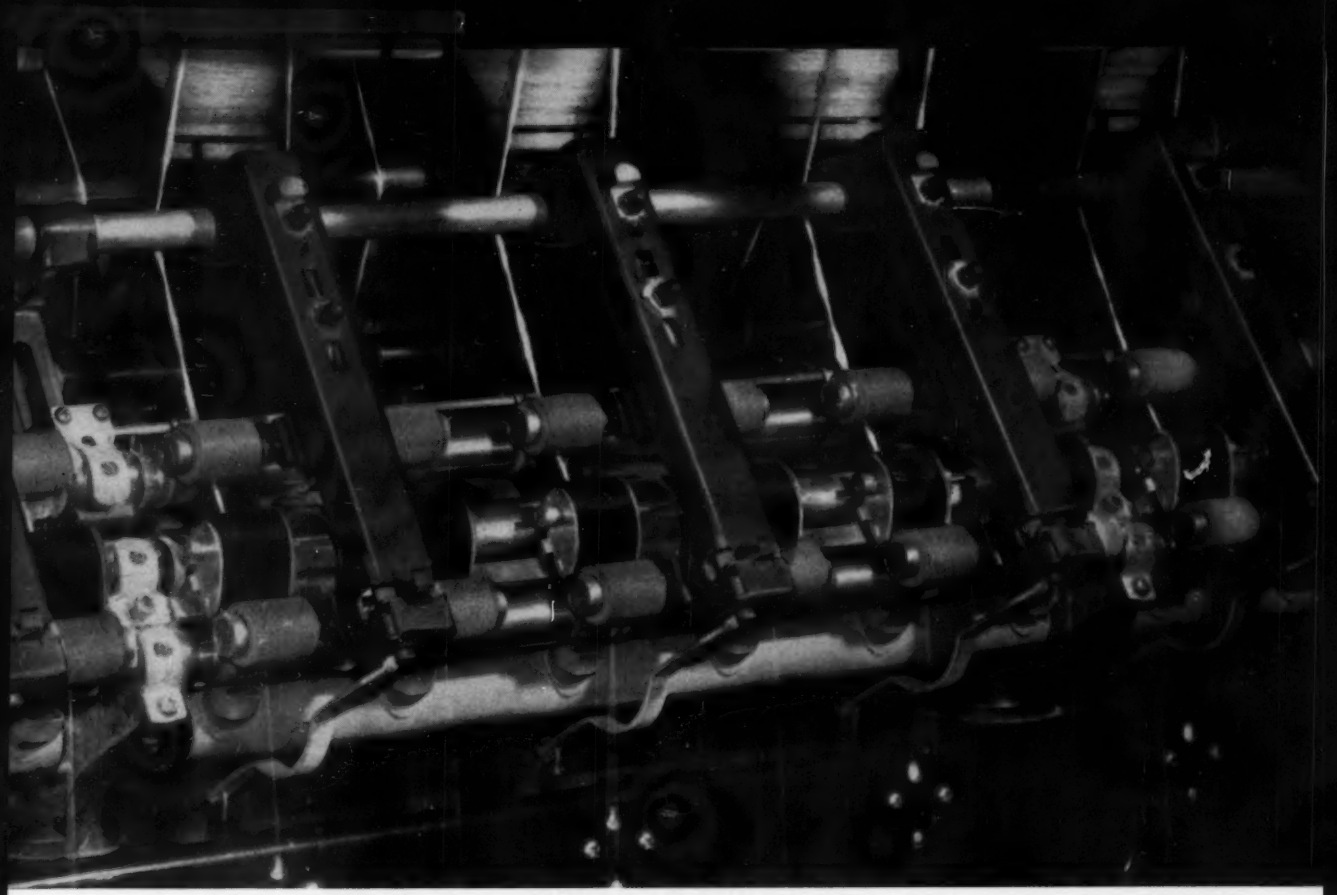
3 Air cylinders apply pressure directly to the top of each calender rack. Both calender racks are tied together with the usual cross shaft to prevent big-ended laps. The racks rise automatically when the calender stops for doffing, but are run down independently by the picker tender after the lap is threaded.

AldricH MachinE WorkS

Greenwood, South Carolina



Won't stretch New NO-7876 Accotex Apron has an interliner of straight-lined cords that prevent apron stretching or curling. Two thin layers of specially compounded synthetic rubber sandwich this core.



Accotex NO-7876 Aprons are used in bottom position on this modern high-draft frame. Accotex NO-7075 Aprons are running in top position.

Get superior spinning and long life with this new Accotex Apron

To spin high-quality yarn on long-apron systems, you need a super-flexible apron that has the right frictional characteristics on each surface. To get these qualities, more and more mill men are switching to thin-wall Accotex NO-7876 Aprons.

Two entirely new rubber compounds were developed for this apron. The rubber on the outer surface has the right fiber handling properties to insure good yarn control. And, where top aprons are used, this surface will drive them without slipping.

The inner surface has a coefficient of friction low enough to allow the apron to run smoothly over the nosebar without tucking or jamming. This surface also conforms well to the drive roll knurling, assuring accurate tracking and full power transmission.

In addition to excellent spinning performance, the new rubbers give the NO-7876 much improved resistance to abrasion and to ozone and flex cracking. As a result, these aprons have run in some mills for three years—and are still in excellent condition.

Try the new NO-7876 Accotex Aprons on your own frames soon. See for yourself how smoothly they run . . . how they help improve yarn quality. Your Armstrong representative will help set up the test. Call him or write to Armstrong Cork Company, Industrial Division, 6411 Ivy Street, Lancaster, Pennsylvania.

Armstrong ACCOTEX APRONS

. . . used wherever performance counts

Bolster Briefs

by Ron Kinney

Manager, Textile Sales

During the past 12 years Ron Kinney has had occasion to visit almost every textile mill in the U. S. A. In these columns he answers some vital questions about bolsters and spindle maintenance —answers that could help improve production and cut operating costs.

We have heard of SKF equipped roller bearing spindles for over thirty years. Will the same design, used for conditions many years ago, give similar good service under the high speeds and heavier loads of today?

Although many spindles with the original design of SKF bolster are still giving satisfactory service, many changes have been made in the design of the bolster, over the years, to adapt it to change in conditions. The modern SKF roller bearing bolster is designed specifically to take care of the conditions existing today, and the heavier loads and higher speeds expected in the next several years.

How often does the modern SKF equipped spindle have to be lubricated?

It depends on the size of the spindle. For instance, the HF 2 equipped spindle for cotton spinning is only lubricated after 20,000 hrs. of operation. The larger sizes range from 6,000 hrs. to 15,000 hrs., depending on the loads.

Will we be able to see SKF equipped spindles at the American Textile Machinery Exhibition in Atlantic City next May?

YES. All types and sizes of the SKF bolsters will be available for study and discussion.

Do you have to remove the SKF spindle from the frame in order to clean or lubricate?

NO. You merely remove the blade. The base remains on the rail.

If SKF produces both ball and roller bearings, why do they use roller bearings for spindles?

Due to the many years of experience SKF has had, they have determined that the line contact you have with a roller bearing is vastly superior to the point contact of a ball bearing, in a spindle application.

You keep saying, in your advertisements, "Specify SKF — No Substitutes Accepted." Does this mean, that there are copies of the SKF Roller Bearing Bolster?

Most well known successful products have been copied and that applies to SKF Bolsters. The "substitute" may look like SKF, but the quality, engineering and up-to-date improvements in the SKF bolster have not been copied.

Who are some of the American spindle manufacturers that will accept orders for spindles equipped with the SKF Roller Bearing Bolster?

The Draper Corporation, Saco-Lowell Shops, Whitin Machine Works, Wicaco Machine Corp., Collins Bros. Machine Co., Superior Bolster Co.

5948

GOT A PROBLEM?
SEND YOUR QUESTION TO
"BOLSTER BRIEFS",
c/o SKF INDUSTRIES, INC.
P. O. Box 6731,
Philadelphia 32, Pennsylvania

SKF introduces its... new "HF" Series Bolster

Planning to buy high-speed, heavy-package spinning frames? Then you'll want every spindle equipped with this new, anti-friction bolster.

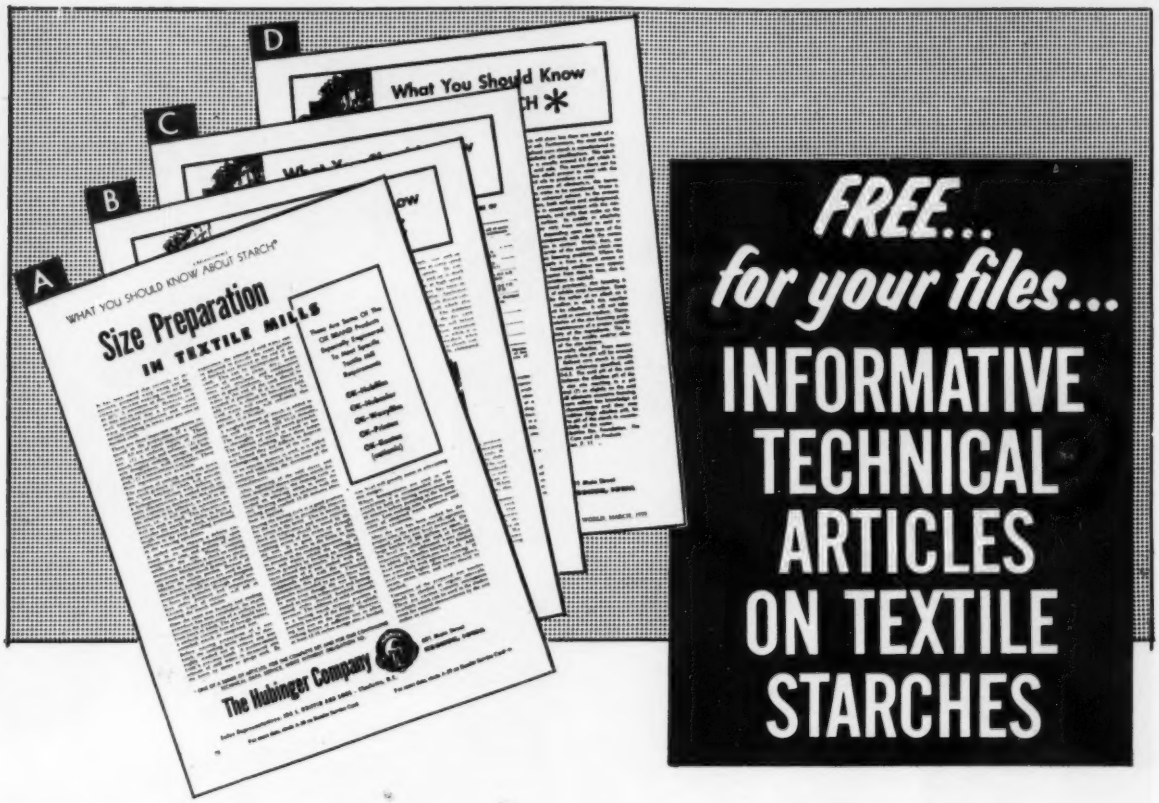
It carries the heaviest packages—smoothly, without vibration—at highest speeds. Yet it only needs a few drops of oil every 3 or 4 years.

For details, call GArfield 6-6400, or write: SKF Textile Division—Philadelphia, Pa., or Charlotte, N. C.

Specify "SKF-equipped" accept no substitutes

Spherical, Cylindrical, Ball, "Tyson" Tapered and REED Miniature Bearings

EVERY TYPE—EVERY USE
SKF®
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
*REG. U. S. PAT. OFF.



FREE... for your files... INFORMATIVE TECHNICAL ARTICLES ON TEXTILE STARCHES

Titled "What You Should Know About Starch," this series of articles covers such subjects as:

- **A** Size Preparation In Textile Mills
- **B** Size Foaming—Its Cause And Cure
- **C** Acidity and Alkalinity—Significance of pH
- **D** New Improvements In Slashing

Here are some of the Hubinger OK BRAND Products especially engineered to meet specific requirements of the Textile Industry:

OK —Hubfilm
OK —Hubolor
OK —Waxyfilm
OK —Printex
OK —Keotac (cationic)

A complete series written by Textile Specialists of The Hubinger Company

During the past several months, as a service to all our friends in the Industry, we have presented a series of technical articles concerning textile starches. Reprints of these information-filled articles, as well as future articles, are available to you in convenient filing form just for the asking. Simply fill out the coupon below, and we shall be happy to send them to you.

The Men From Hubinger—trained specialists in textile starches—are at your service (without obligation) to help you with any starch related problem you may have. Phone or write—We shall welcome the opportunity to serve you in any way we can.

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All future articles:

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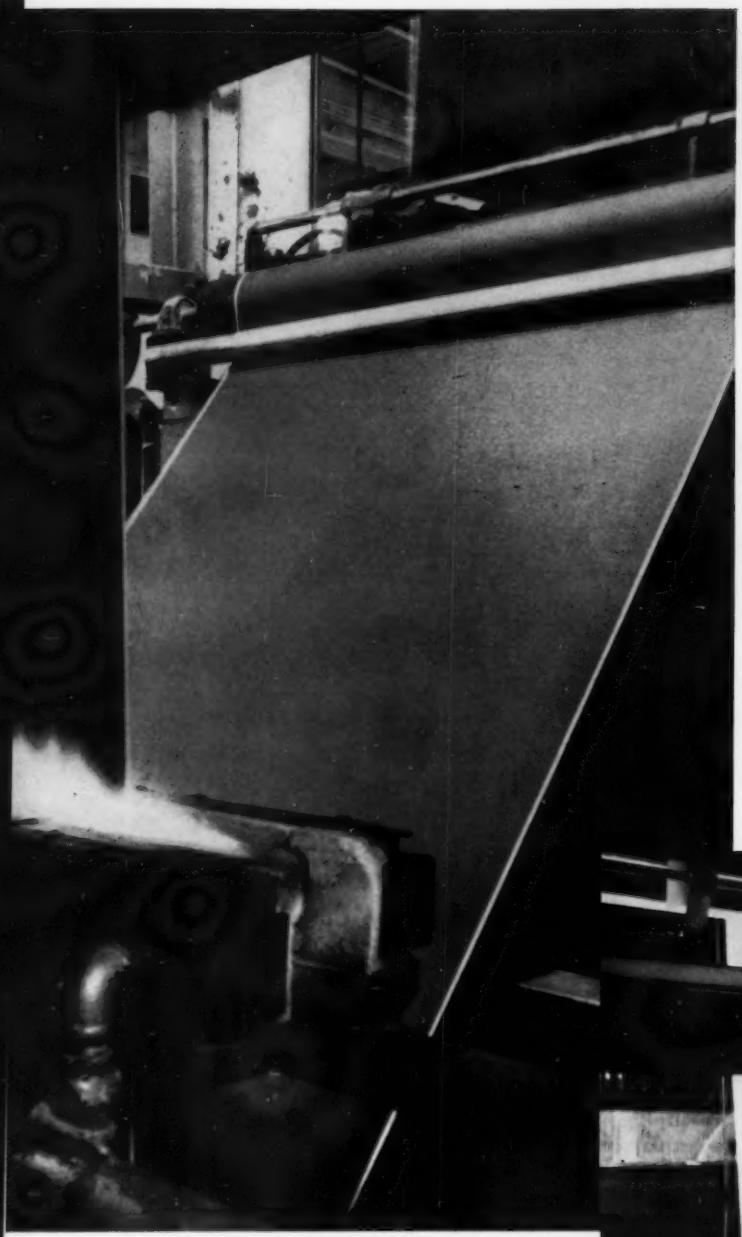
For further information use Handy Return Card, Page 183

GAS *equipment*
can help you
increase production speed
improve quality
reduce maintenance costs

Modern gas equipment can help you solve your heat problems.

Only gas gives the precisely controlled, economical heat at high enough temperatures needed in the curing or setting of modern fabrics and finishes. The volume of heat, the temperature, and the method of application varies widely, but recent advances made in the design of gas equipment insures the flexibility demanded for economical operation, increased production, and improved quality.

Furthermore, gas provides a large volume of heat in a small area, increasing production



Eliminate multiple passes – singe in one pass any fabric presently known with modern gas-fired equipment. Even high quality corduroy can get an exceptionally uniform singe in a single pass.

Gas-fired radiant burners can speed up your drying and setting of coatings or adhesives. Also eliminates sticking of adhesive to the first drying cans; reduces maintenance costs substantially.

speed with a small investment. Eliminate the purchasing of longer frames and expensive housings with the use of all new modern gas equipment or auxiliary burners.

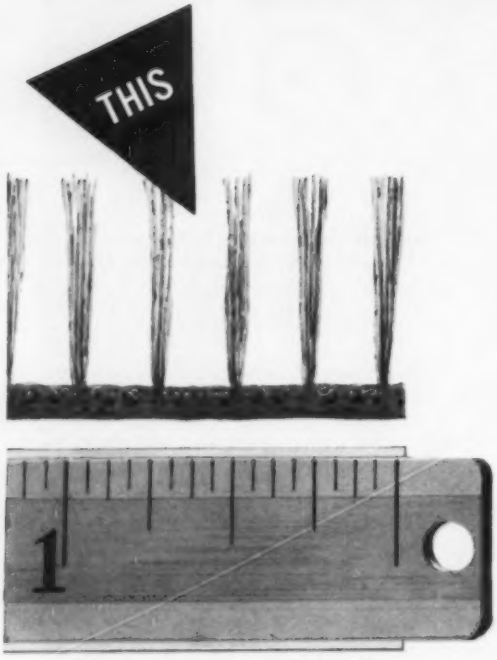
For all textile heating applications – for singeing, Tenter Frame Drying, loop drying, nylon setting, calendering, can drying and setting of coatings – check with your gas company specialist on textile operations. He'll show you the economies and results you can get with modern gas equipment especially designed for the textile industry. *American Gas Association.*

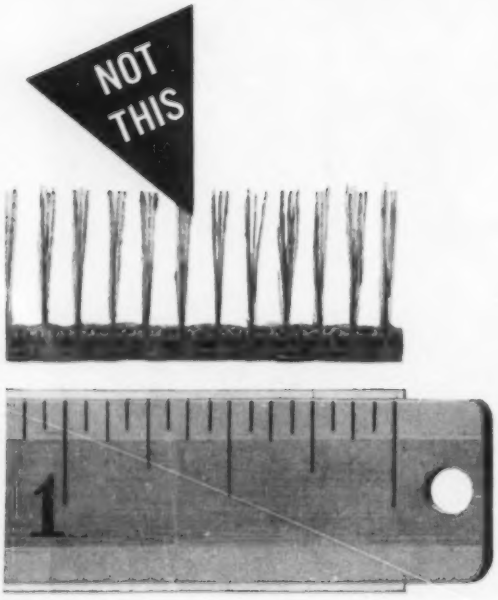
caprolan®

THE NYLON FIBER BY ALLIED CHEMICAL

TEXTURED YARN SEMINAR

#14 of a series





HIGH PILE HEIGHT ...LOW PILE WEIGHT

When you switch to the new textured nylon filament yarns, remember this—

FACT: Textured Filament Yarns And Spun Yarns Are Not The Same.

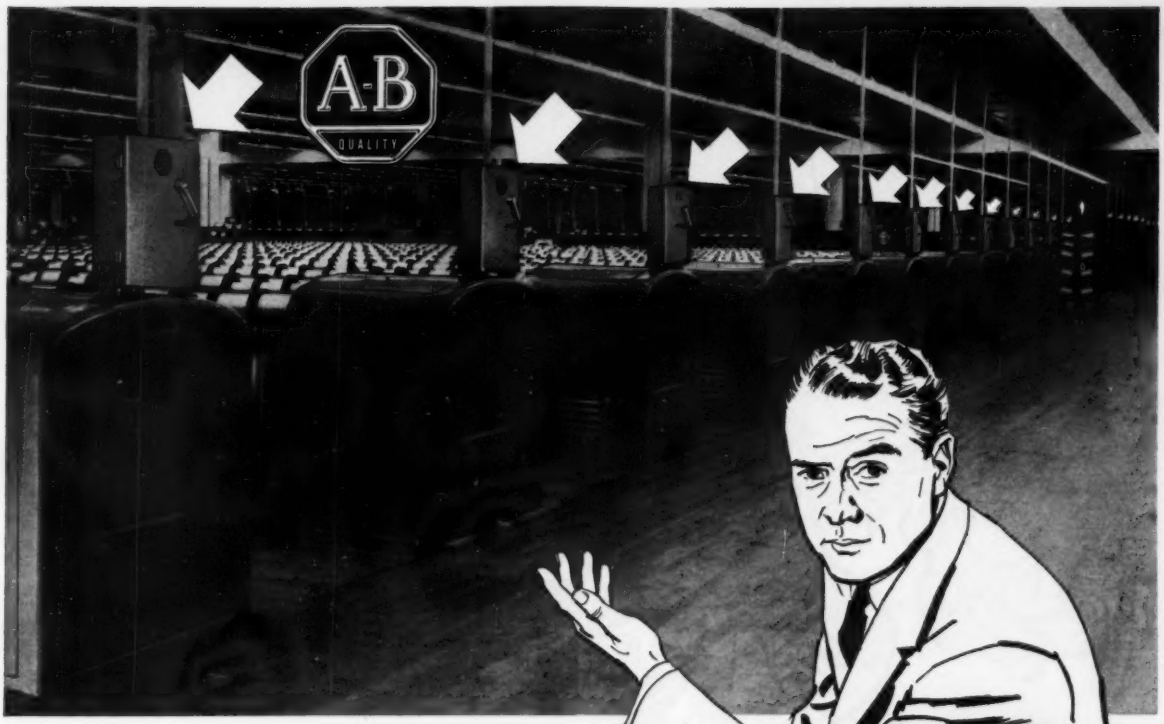
Therefore, in styling, certain simple adaptations should be made to get the most from these marvelous new fibers.

EXAMPLE: Take the matter of pile height, for instance. If you want to decrease pile weight, do not lower the pile height. Use either a wider gauge, or reduce the stitches per inch.

RESULT: A more luxurious carpet because this procedure gives the textured filament yarn room to develop and subsequently increase its ability to cover.

Easy adjustments like this pay off in excellent results with Textured Caprolan. Our technical service, end-use development and fiber application laboratory staffs are ready to help you at any time. Call us.

Fiber Sales & Service Allied Chemical *National Aniline Division*
261 Madison Avenue, New York 16, N. Y.



Production losses are "saved" when using

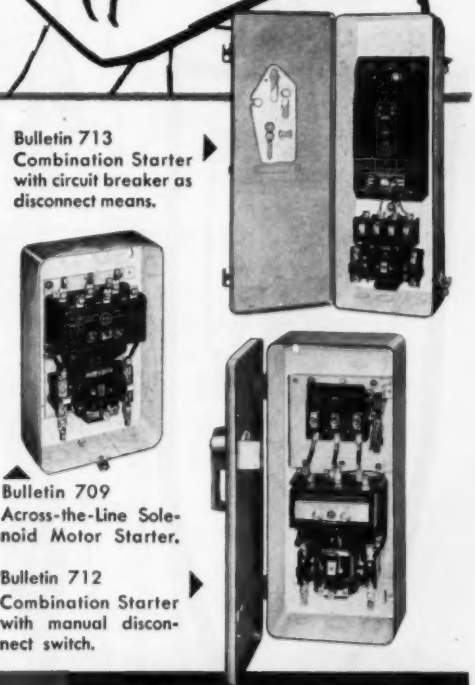
Trouble Free ALLEN-BRADLEY Motor Controls

Costly production delays resulting from control failures are eliminated when you equip your mills with Allen-Bradley solenoid motor starters.

This simple solenoid design—for which Allen-Bradley starters are famous—has only ONE moving part. This assures millions of trouble free operations. There are no bearings to stick . . . no flexible jumpers to break. And the double break, silver alloy contacts *never* need service attention. Permanently accurate and reliable thermal overload relays protect motors against "burnouts."

Insist on A-B quality motor control—it's your best insurance for maximum production economy.

Allen-Bradley Co., 208 W. Greenfield Ave., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

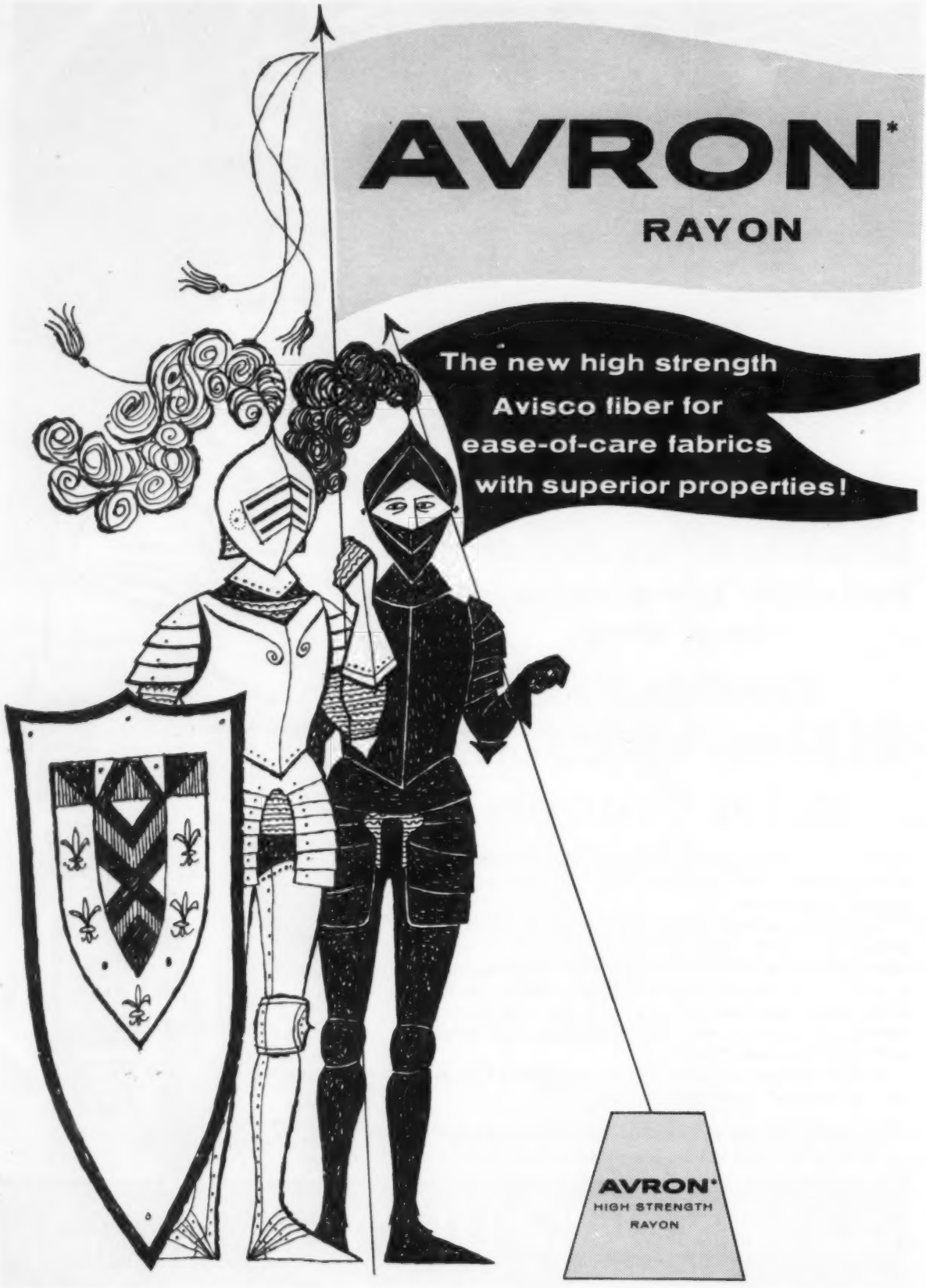


Bulletin 713 Combination Starter with circuit breaker as disconnect means.

Bulletin 709 Across-the-Line Solenoid Motor Starter.

Bulletin 712 Combination Starter with manual disconnect switch.

ALLEN-BRADLEY MEMBER OF NEMA **QUALITY MOTOR CONTROL**


AVRON*
RAYON
The new high strength
Avisco fiber for
ease-of-care fabrics
with superior properties!
AVRON*
HIGH STRENGTH
RAYON

And you can produce these superior ease-of-care fabrics without modification of your present equipment. Why? Because this new high strength rayon is available—AVRON RAYON.

This new fiber excels cotton for single fiber tensile strength in the conditioned state, approximates it for the same property when wet. Avron is not degraded to the same extent as cotton by resin finishing, and when added to cotton, it imparts a soft hand unattainable with cotton alone. It can also be blended easily with other man-made fibers to achieve superior ease-of-care fabrics, finer more even fabrics with a soft, luxurious hand!

NO CHANGE IN TECHNIQUES NECESSARY

Avron rayon may be worked through the cotton system without any modification of equipment. Because of superior tensile strength, spinning and weaving efficiency is higher for Avron rayon than for cotton. And in any drawing frame blend with cotton, less waste means a cost saving. You get economy of operation, too, since there is practically no lint to clog your machinery.

EASE OF DYEING

Avron dyes to any shade easily without changing your techniques. In fact, it has a greater affinity for dye than cotton.

LIGHTER FABRICS FOR SAME STRENGTH

Because of the strength of Avron rayon, you can turn out lighter ease-of-care fabrics of the same strength as cotton, and a more even fabric because of the uniformity of Avron yarn. Also, standard weight cotton constructions can be made with 75 to 100% greater tensile strength and tear strength.

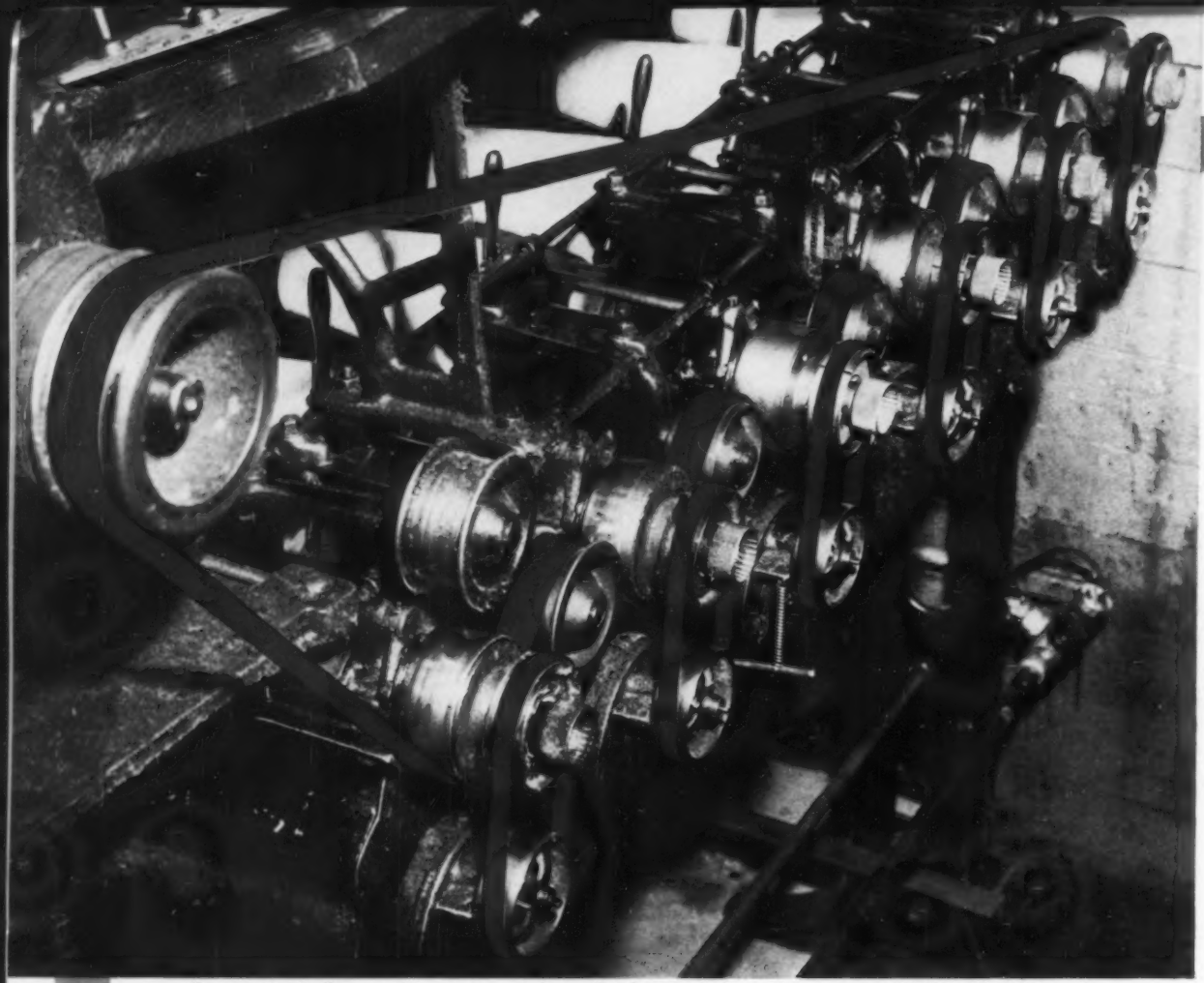
For more information write to:

AMERICAN VISCOSE CORPORATION, 350 Fifth Avenue, New York 1, N.Y.

AVISCO®

*Trademark of American Viscose Corporation

Rayon • Acetate • Cellophane



Constant spindle speed improves winding. Oil from spindles will not cause EXTREMULTUS to slip.

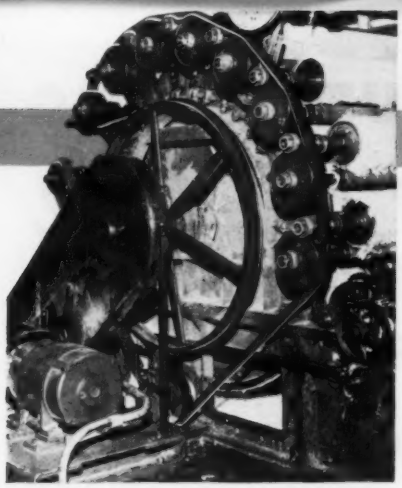
for increased textile mill efficiency

EXTREMULTUS

THE BELT THAT WON'T

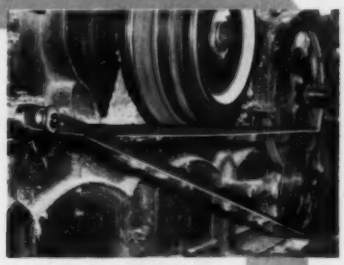
EXTREMULTUS is not merely a new name. It is a new kind of belt. It combines a polymer core — for strength and elasticity — with chrome tanned leather for high friction and flexibility. It is unique; it has never been successfully imitated.

EXTREMULTUS belts have been job-proven in hundreds of textile mills and in many other industries. Mills that have tried it are now converting to EXTREMULTUS 100%.



Woolen card stripper drive shows less down-time and more control of web because EXTREMULTUS has not stretched or slipped since installed . . . even with small arc of contact.

On loom drives EXTREMULTUS eliminates slip on start and stop, at higher ratios and shorter center distances. Ratios easily changed. Always a soft, positive start.



With EXTREMULTUS you can use smaller doffer pulleys—increase lickerin speeds without jack shafting.

Roving frame super drafts with EXTREMULTUS belts have maintained required high speed without maintenance on every check since their installation.

NO-SLIP EXTREMULTUS MEANS MAXIMUM OUTPUT

ELIMINATES START-UP PROBLEMS. Won't stretch . . . won't stiffen around pulleys. No Monday-morning start-up problems . . . instant power transmission, more output per shift.

KEEPS TENSION. No need for belt take-up. EXTREMULTUS polymer core is elastic, flexible . . . with NO PERMANENT STRETCH.

GIVES SMOOTH, CONSTANT SPEED. At high or low speeds . . . under the most severe conditions . . . EXTREMULTUS won't slap or chatter. Gives smooth, controlled power to improve every machine's performance.

NO-STRETCH EXTREMULTUS ELIMINATES BELT TAKE-UPS

OUTLASTS ALL OTHER BELTING. In every installation ever made, EXTREMULTUS has so far surpassed the operating life of the belting it replaced that mill personnel find it hard to believe their own records. EXTREMULTUS has been running without adjustment for years.

REDUCES BEARING LOADS. Through its high coefficient of friction and unusual elasticity, EXTREMULTUS reduces bearing loads . . . resulting in less down-time and better production.

SPLICES QUICKLY. You can make smooth, flexible, permanent splices in your own shop. The splice is as strong as the belt itself. Fasteners are not necessary.

On twisters and spinning frames EXTREMULTUS maintains constant spindle speeds.

STRETCH...WON'T SLIP

EXTREMULTUS,
INCORPORATED
25-11 40th AVENUE
LONG ISLAND CITY 1, N. Y.

To find out how EXTREMULTUS keeps tension, eliminates start-up problems, outlasts all other belting, gives smooth, constant speed, reduces bearing loads, splices quickly . . . contact your local distributor.

BROWNING BELTING AND SUPPLY CO., INC.
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BRUCKMANN AND CO.
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CENTRAL BELTING, HOSE AND RUBBER CO.
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MAKE YOUR BALING A *Profitable* OPERATION

with dependable

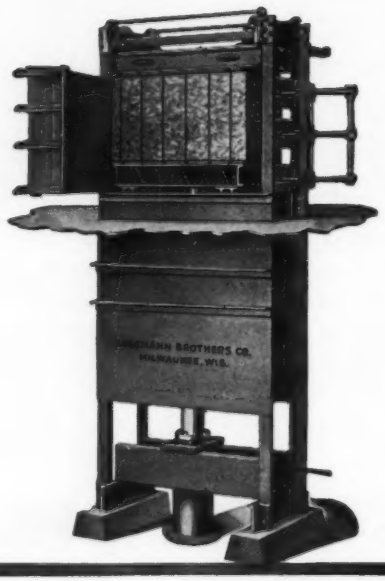
LOGEMANN BALING PRESSES

Open balers for finished goods may be hydraulic or power-driven. Give platen dimensions required, maximum height of pile to be compressed, number of bales per hour, when requesting information on open balers.

Tell Us Your Baling Problems

That's the best way to get the right answers to low-cost time-saving baling. During our sixty years of building balers for the textile industry we've solved many a baling problem for mill owners. Our engineers know how to make baling operations pay their own way in time and labor-savings, in speedier, more reliable handling of bales, in lower maintenance cost. Many Logemann balers have been in profitable operation since the turn of the century—evidence of the ruggedness, durability, and long service life of Logemann baling presses.

In the interests of better baling operations in your plant, find out what Logemann balers can do for you. Tell us what your specific problem is. We'll gladly show you how it can be answered in terms of better bales at lower costs and make a specific recommendation based on your requirements. Write for information today.



Box balers for waste may be obtained in either the hydraulic or power-driven type. Mention the kind of waste to be baled, how much in how many hours, the preferred size or weight of bale when inquiring about box balers.

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the frugal finisher's friend: "AC" catalysts

Here's how Monsanto AC Catalysts give you better results for less: 1) longer resin bath life; 2) faster, more complete curing of melamine, urea and other thermosetting resins; 3) with minimum resin add-on. There's less danger of amine odor formation or residual formaldehyde. And AC Catalysts are compatible with practically all modifying agents. Keep your finishing costs down—*safely*—with AC Catalysts and other Monsanto textile chemicals. For complete technical data on AC catalysts, write Monsanto Chemical Company, Plastics Division, Room 1202, Springfield 2, Massachusetts.

Monsanto

Other outstanding Monsanto textile chemicals include: Resloom E-63 chlorine resistant resins; Resloom E-50 cyclic urea resin; Resloom HP and M-75 melamine resins; Stymer sizes; Lytron polystyrene latices

CLINTON can do it with CORN

Zea Mays

. . . that which sustains life

The products from corn that are made by Clinton contribute to better living for millions

Zea Mays is derived from the Greek name for grain and the American Indian sound for "that which sustains life."

The Indian used corn as food—and knew very few and simple ways to prepare it. Corn, today, is vital as a food for humans and livestock—but, the products from corn are many and it is impossible to count the ways they contribute to our better living.

There are very few products you buy that do not use a product from corn in some way. Corn sugars and starches are used extensively in food processing. Starches aid in the textile industry, and the laundry industry—the clothes you wear needed corn. Corn makes better papers and packaging boards. Corn is necessary in drugs and medicines—in beverages and bubble gum.

Corn is our business at Clinton. In our modern plant we produce the finest products from corn—under the strictest system of quality control. And, Clinton research is constantly discovering new applications for corn in the quest for better living for everybody.

Clinton serves the TEXTILE industry

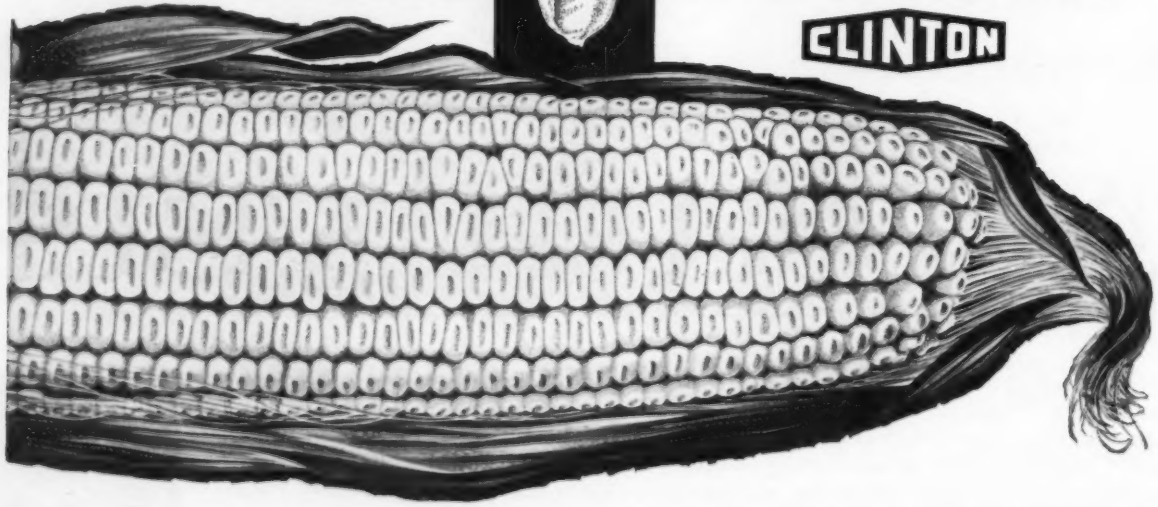
Clinton's uniformly controlled, quality products will meet your textile manufacturing requirements. Consult your Clinton salesman. He will provide product information, arrange for prompt technical service, or assist you in any way possible.

CLINTON CORN PROCESSING COMPANY
CLINTON, IOWA

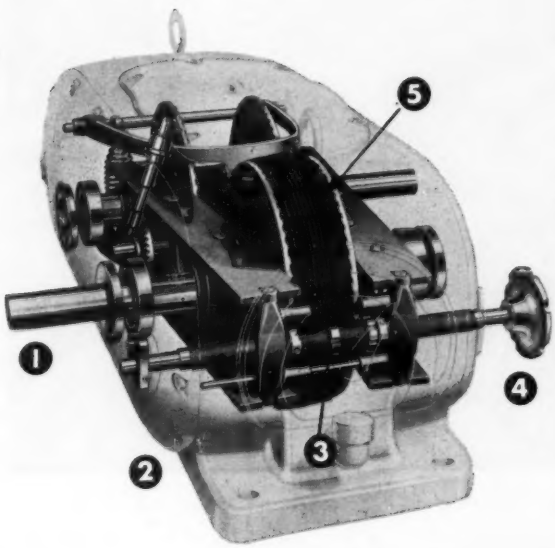
CORN SYRUPS • DEXTROSE
STARCHES • DEXTRINS • SUGARS • OILS
LACTIC ACID AND OTHER PRODUCTS FROM CORN

If you can do it with CORN
you can do it better with CLINTON

CLINTON



PUT TEETH IN YOUR SPEED CHANGING JOBS



Get the positive, accurate control that only LINK-BELT's chain-driven P.I.V. can deliver

Yes, you put teeth into your speed changing jobs because Link-Belt P.I.V.—unlike other variable speed drives—utilizes an exclusive metal, self-tooth-forming chain.

Here's how it works! P.I.V. chain consists of a series of overlapping steel links. The links contain packs of slats which are free to move from side to side, singly or collectively, to serve as teeth. The chain meshes with radially grooved wheels, which are cut to a constant depth towards the wheel periphery. Beveled sides of the grooves offer gripping areas . . . provide a positive, nonslip contact at any speed, under all loads.

Makes changing speed simple too! A turn of the control screw simultaneously varies the effective diameters of the conically shaped wheels—closing one set, spreading the other. At the same time, the self-tooth-forming chain automatically adjusts to provide desired ratio between the input and output shafts.

BOOK 2274—Your Link-Belt office or authorized stock-carrying distributor has Book 2274 on P.I.V. drives from ½ to 25 hp. Refer to the yellow pages of your local phone directory under Power Transmission Equipment.

(1) You can get minute speed changes and maintain them accurately while operating under full load.

(2) All-metal, totally enclosed—unaffected by atmospheric conditions. All vital operating parts splash-lubricated from a common housing reservoir.

(3) Easy-view speed indicator facilitates speed selection and adjustments to meet all requirements.

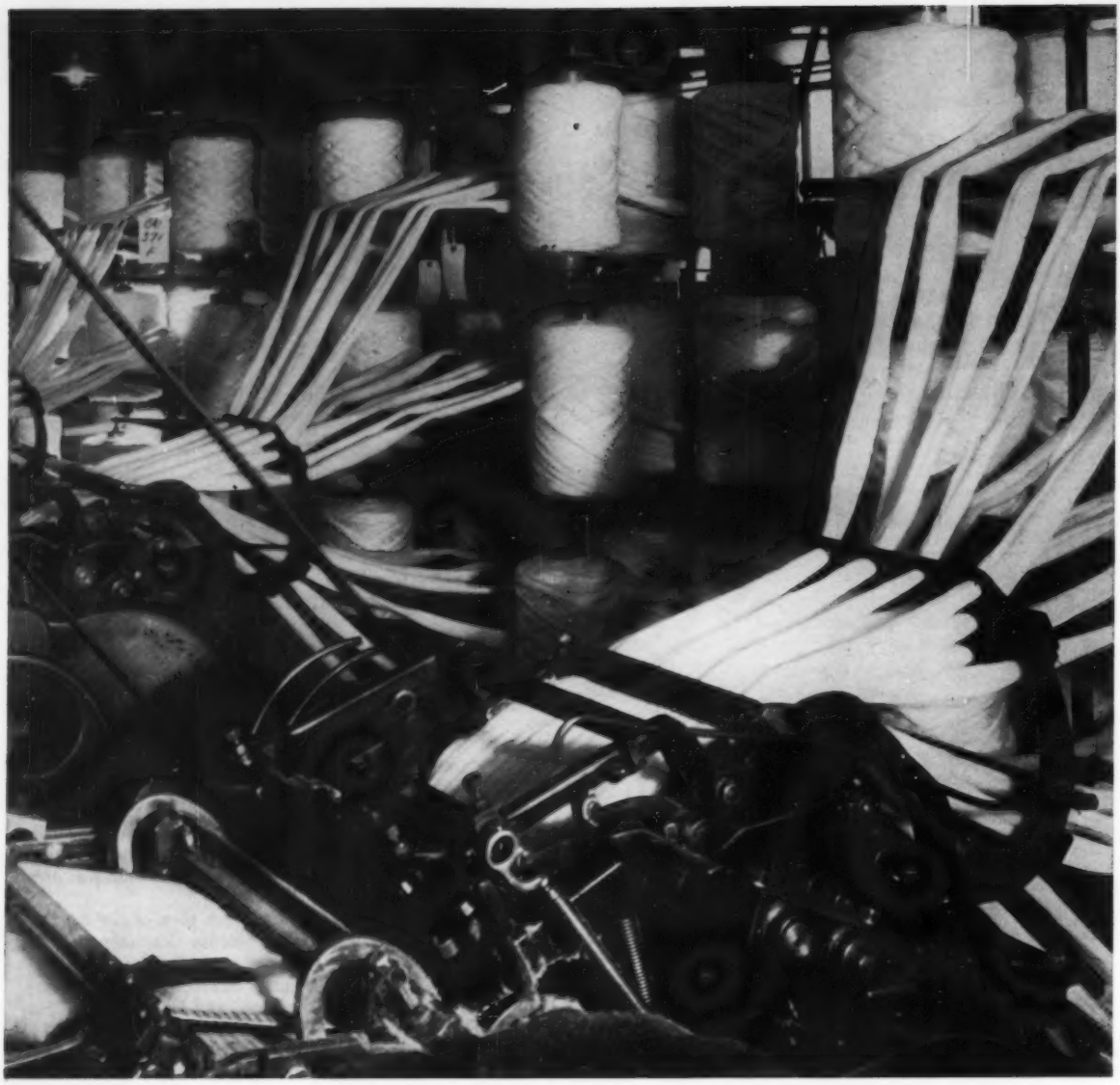
(4) An infinite number of positive, stepless speed adjustments may be made with manual, electric, pneumatic or hydraulic controls.

(5) Self-tooth-forming chain is made from a series of overlapping steel links. Links contain packs of hardened steel laminations or slats (shown above). Slats grip toothed wheels positively without slippage —give the speed you need at any setting.

15,249

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To serve Industry There Are Link-Belt Plants, Sales Offices and Stock Carrying Distributors in All Principal Cities. Export Office, New York 7; Australia, Marrickville (Sydney); Brazil, Sao Paulo; Canada, Scarboro (Toronto 13); South Africa, Springs. Representatives Throughout the World.

LINK-BELT P.I.V. VARIABLE SPEED DRIVE



Promised feat . . . or delivered feet?

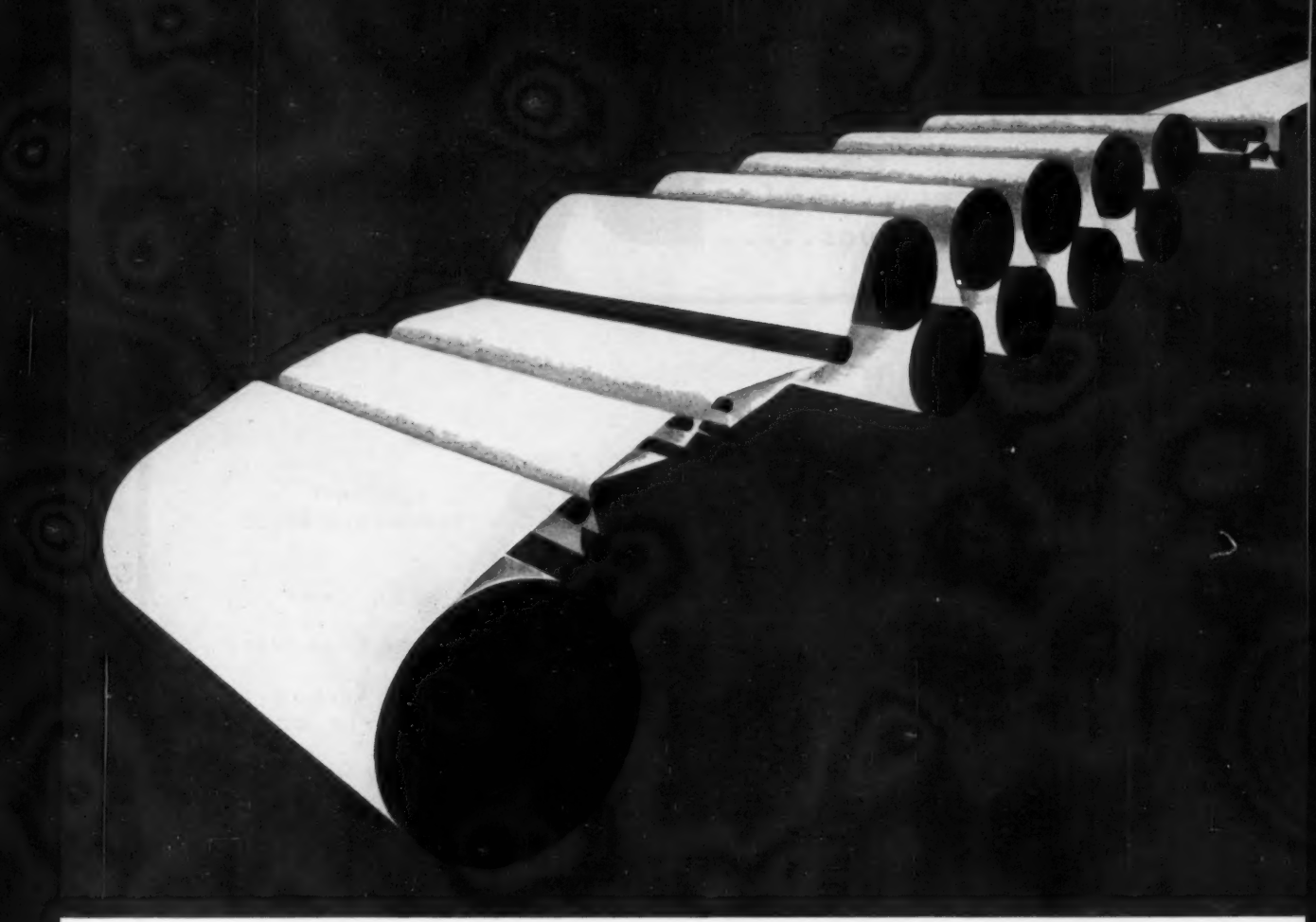
The real measure of success in textile lubrication lies in *feet* of textiles produced—not *promised* feats of performance. It's the maximum yardage actually realized that counts. For over 70 years Standard Oil lubricants have been *first* in popularity with southern textile industry . . . a popularity that has been built on the solid foundation of production *results*.

Constant tests and quality-controls throughout the manufacturing process assure Standard Oil lubricants with an unvarying high quality. Continuing research in the world's largest facilities for petroleum testing maintains a steady flow of Standard Oil product improvements and new lubrication techniques.

Your Standard Oil lubrication specialist stands ready to give you the full benefit of Standard Oil experience with a lubrication plan tailored to *your* specific requirements.

STANDARD OIL LUBRICANTS

STANDARD OIL COMPANY
(KENTUCKY)



The yarn path for BETTER loom beams runs through the Kidde-Johnson Slasher

Of course, you want tightly and evenly-packed loom beams. You want size evenly applied, with careful control of pick-up, and fast drying at regulated temperatures. You want controlled moisture content in the yarn after drying. You want equipment that's easy to maintain. The Kidde-Johnson Slasher meets your requirements perfectly. Here's why:

1. **Controlled tension**
2. **Rigidly supported loom beam**
3. **Fingertip calibration of stretch**
4. **Precise control of size level and temperature**
5. **Uniform application and penetration of size**
6. **Geared cylinder drive**
7. **High pressure, Teflon-coated cylinders**
8. **Stainless steel components**

Kidde makes the Slasher to suit your production requirements

The Kidde-Johnson Slasher will slash yarns of any fiber – filaments or spuns – from the finest count for delicate fabrics to the heaviest denier tire cord.

It is constructed to fit your requirements – for cotton system slashing, silk system slashing, or both.

Its production capacity can be expanded to meet future needs. Drying cylinders, single or combination quetsches can be added, head ends extended or widened.

For full information about complete new slasher installations as modernization of your present equipment, call PILGRIM 8-8100 or write . . .

TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS • BEAMERS
CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS • TENSION COMPENSATORS

Kidde

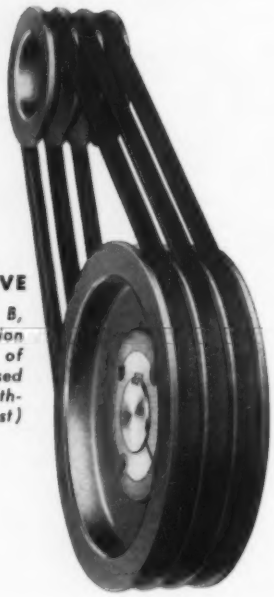
TEXTILE MACHINERY CORPORATION – BLOOMFIELD, NEW JERSEY

The word KIDDE is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.

Announcing

an entirely new line of V-Belt Drives.....

DODGE Dyna V



CONVENTIONAL TAPER-LOCK DRIVE

(— using standard A, B, C, D and E cross section belts, the hp ratings of which have been increased an average of 40% without any increase in cost)

DYNA-V TAPER-LOCK DRIVE

NEW HIGH CAPACITY

NEW COMPACTNESS

NEW SAVINGS IN COST

COMPARISON, ILLUSTRATED ABOVE — 3 HP, 1750 RPM, 2.41 TO 1 RATIO

	BELTS		SHEAVES			CENTER DISTANCE	HP	WEIGHT (LBS.)	COST	
	Number	Size	O.D. Driver	O.D. Driven	Width				Per hp	Per Drive
CONVENTIONAL TAPER-LOCK DRIVE	3	A42	4.15"	8.95"	2½"	12.3"	4.62	24.7	$5.62	$25.98
DYNA-V TAPER-LOCK DRIVE	2	3V400	3.35"	8.00"	1 3/32"	10.8"	5.0	18.0	$4.50	$22.50
% SAVING *Savings vary with different sized drives*			19%	10%	56%	12%	+	27%	19.9%	13.4%

Dyna-V Drives are sensationally compact. They are capable of handling up to three times as much horsepower in a given space. Dyna-V opens vast new possibilities for better, more economical machine design. And, in most instances, *Dyna-V costs less!*

Narrower grooves, to match stronger, narrower Dyna-V Belts, greatly reduce the face width and the weight of Dyna-V Sheaves. Cost is lowered. Smaller diameter sheaves and shorter center distances multiply savings.

Dyna-V Sheaves decrease shaft overhang—increase bearing life. The new dimensional stability of Dyna-V Belts solves the problem of belt matching. Every belt carries its full share of the load.

Dyna-V Drives are available for capacities from 1 to 1500 hp. Ask your Dodge Distributor. Or write us for new Dyna-V Bulletin.

DODGE MANUFACTURING CORPORATION, 3500 Union St., Mishawaka, Indiana

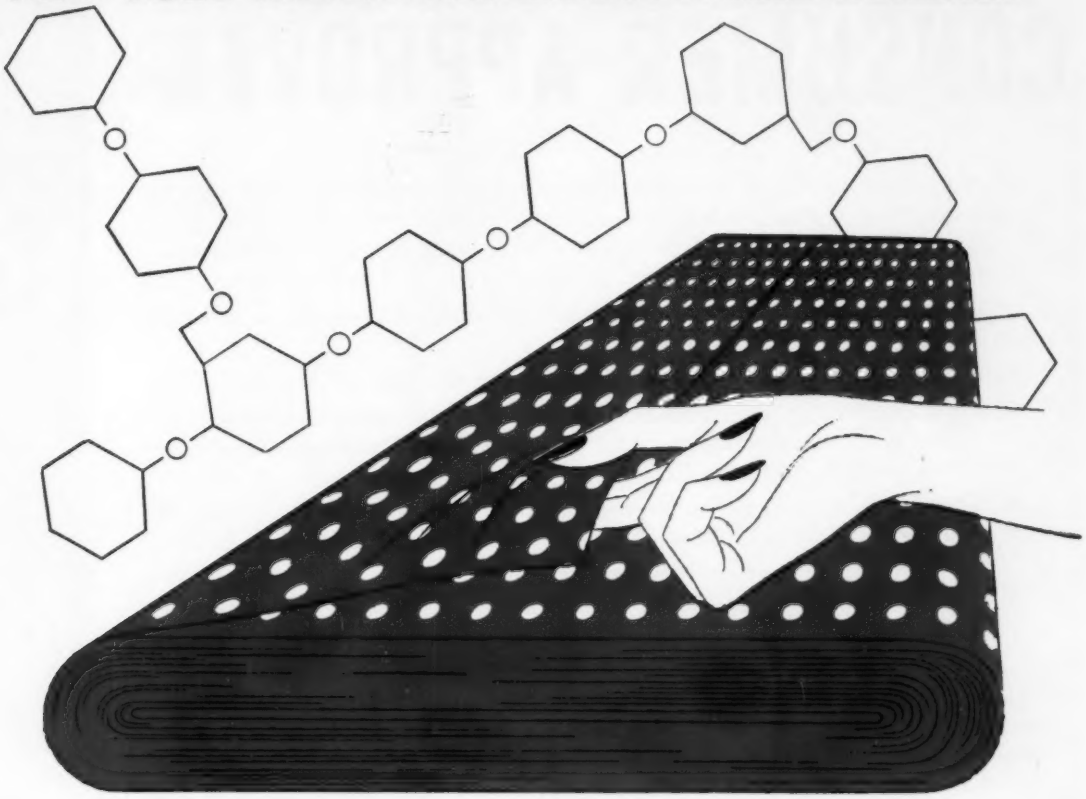
DODGE

of Mishawaka, Ind.

CALL THE TRANSMISSIONEER—your local Dodge Distributor. Factory trained by Dodge, he can give you valuable help on new, cost-saving methods. Look in the *white* pages of your telephone directory for "Dodge Transmissioneer."

Kosol

NEW COLD WATER DISPERSIBLE HAND BUILDER



IMPROVES HAND OF WASH 'N WEAR FABRICS

KOSOL is a new kind of hand builder. With a branched chain type structure that cross-links more readily with resins. Clear. Colorless. Gives a new fullness to wash 'n wear finishes.

KOSOL takes only minutes to prepare. No cooking. No cooling. You simply disperse in cold water. Add to resin mixture. Then apply to fabric!

KOSOL is compatible with all resins now in widespread use. It's another development of textile research at National. Try it for that little extra that means so much in fabrics. Write or call your nearest National office.

TEXTILE DIVISION

National STARCH and CHEMICAL CORPORATION

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 # 6 in a series reviewing the "reasons-why" for the consumer acceptance of Arnel

ARNEL'S "STAMPS" OF CONSUMER APPROVAL

One of the basic attributes of Arnel triacetate that has made this fiber such a singular success in the "wash and wear" and "ease of care" field is QUICK DRYING. Without question, Arnel's fast drying capability is as important to consumers as its ease of handling and processing to the mills and finishers.

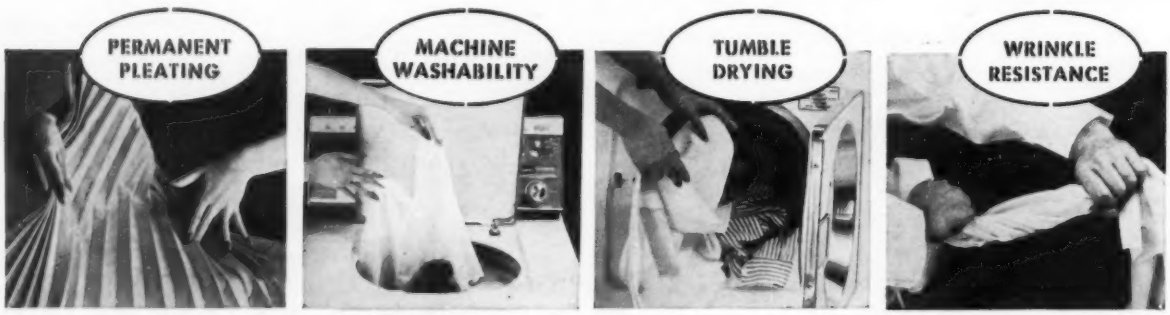
After having bought a fabric made of Arnel the consumer is assured of satisfaction *and* of QUICK DRYING because:

1. Arnel is hydrophobic (water-hating). It is naturally very fast drying.
2. Arnel absorbs only 3.2% moisture under normal conditions, which helps make fabrics of Arnel extremely resistant to wrinkling and mussing, even under conditions of highest humidity.
3. This low level of attraction for water and moisture is *not* at the expense of other characteristics. Fabrics of Arnel have a desirable hand, drapeability, good dimensional stability and wash-fastness.
4. All fabrics carrying the official Arnel symbol have been pre-tested for performance claimed—including quick drying. (Tests are conducted free of charge by the Celanese Corporation of America.)

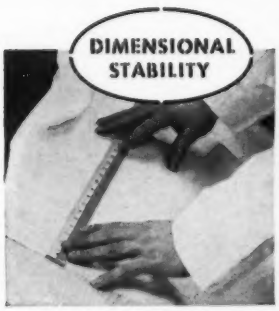
So, take advantage of the great consumer acceptance of Arnel. Let Celanese work with you to develop new Arnel fabrics. Booklets 12A, 13A and 14A, containing the important technical procedure and facts about Arnel, are available by writing Celanese Fibers Company, a division of Celanese Corporation of America, Box 1414, Charlotte, N. C.

Celanese® Arnel®

District Sales Offices: 180 Madison Ave., New York 16, N. Y.; 15 N. Broadway, Des Plaines, Ill.; Western Merchandise Mart, Room 478, San Francisco, Calif.; P. O. Box 1414, Charlotte 1, N. C.; 200 Boylston St., Chestnut Hill 67, Mass.; 3179 Maple Drive N. E., Atlanta 5, Ga.
Export Sales: Amcel Co., Inc., and Pan Amcel Co., Inc., 180 Madison Ave., New York 16, N. Y.
In Canada: Chemcell Fibres Limited, 1600 Dorchester Street West, Montreal, Quebec



Arnel . . . a



ARNEL®

*This is the official Arnel symbol—evidence that this fabric of this new triacetate fiber has been pre-tested for performance claimed.

Celanese contemporary fiber

LARGE Schlafhorst AUTOCOPSER

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INTO EVERY TEXTILE COMMUNITY PRODUCING **BETTER QUALITY AT A LOWER COST PER POUND**

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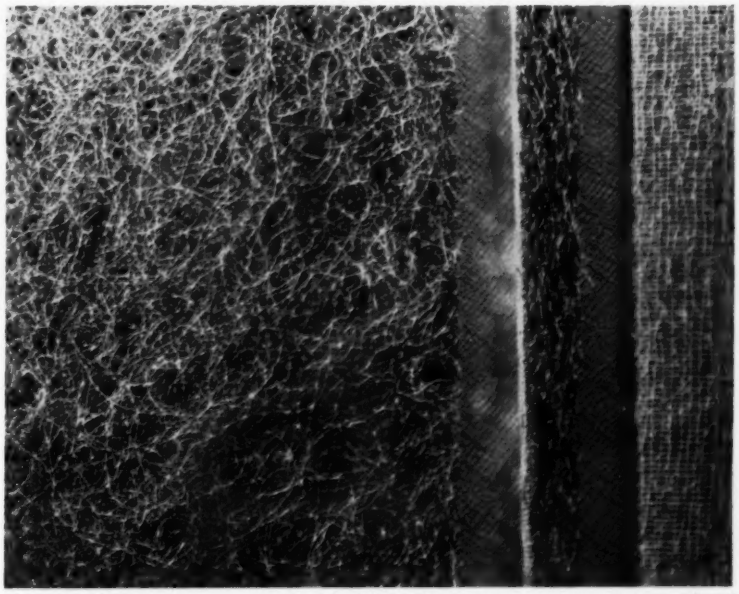
NEWS IN BRIEF

More Textile Research? Reports of intensified activity in various phases of research for the textile industry were presented at a recent meeting of the Research and Technical Service Committee of the American Cotton Manufacturers Institute. "Increasing attention is being placed on research in the textile industry, with a resulting expansion of research facilities," according to Committee Chairman Walter Regnery of Joanna Cotton Mills Co. (But see the report by American Management Association on research and development expenditures by various American industries, which appears elsewhere in this section.—The Editors.)

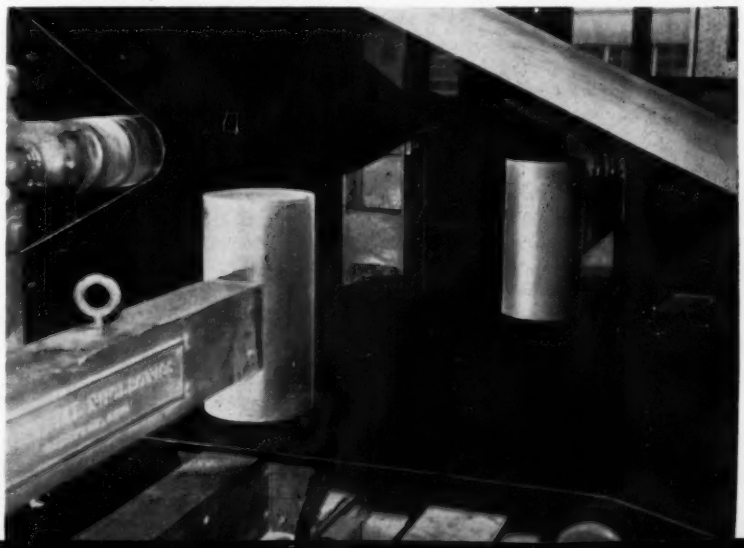
TWUA Hits Ike on Wool. Textile Workers Union of America has issued a statement deploring President Eisenhower's action in "initiating revisions of woolen and worsted tariff regulations through personal conversations with heads of foreign states." The reference was to discussions between the President and Prime Minister Macmillan of Great Britain during Ei-

senhower's recent European tour. And referring to the same discussions, Edwin Wilkinson, president of the National Association of Wool Manufacturers, said, "Placing of U. S. tariffs on a global problem plane by Mr. Macmillan is the lat-

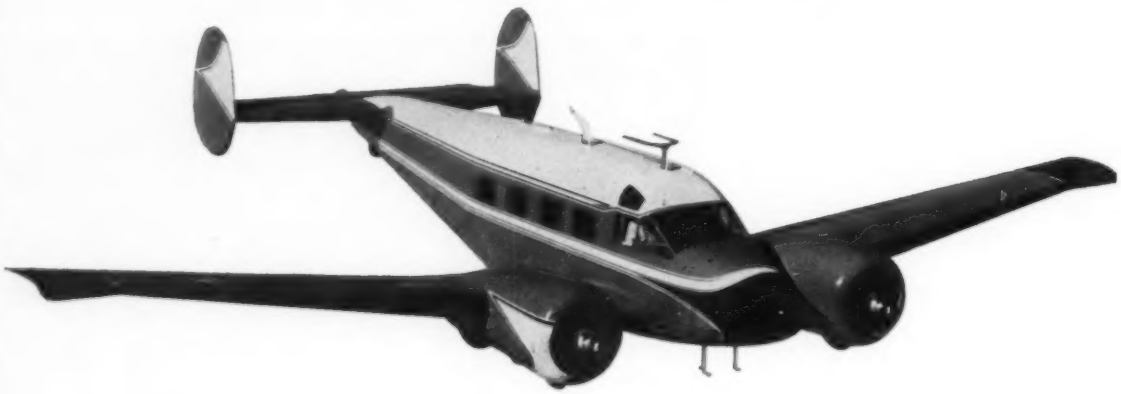


Carpet cushion made from a special blend of hog hair and cattle tail hair is being marketed by Janesville Cotton Mills, Norwalk, O. The cushion is bonded with latex and is 7/16" thick. The photo shows the face of the cushion at left, side view in center, and back at right.

These two detector heads or beta gauges, activated by radioactive isotopes, are used on a calender at Goodyear Tire & Rubber Co. to control thickness of rubber stock on tire fabric.



Beechcraft SUPER 18



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ALBANY AIR SERVICE, INC.
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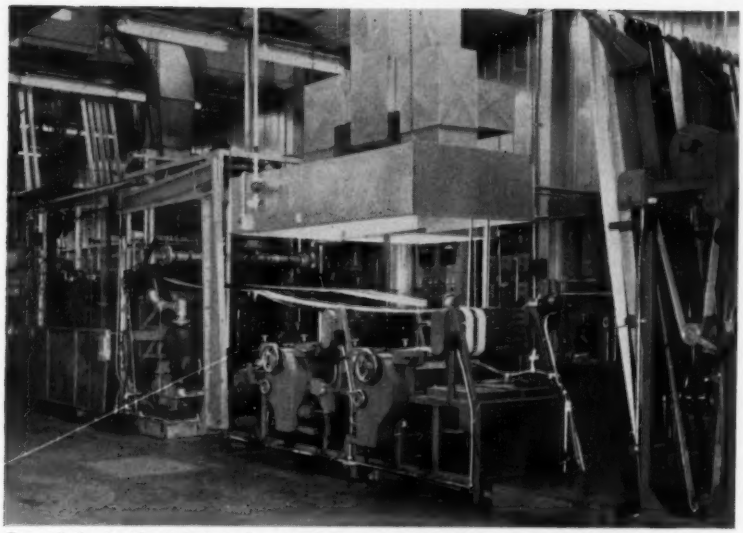
BEECHCRAFT — AIRFLEET OF THE TEXTILE INDUSTRY



One of the textile industry's largest dryers is in operation on narrow fabrics at the new Rochester, N. Y., plant of The Schlegel Manufacturing Co. The 75-foot-long unit is capable of simultaneously drying twelve 3- to 4-inch-wide strips of latex-coated textile fabrics.

est example of the British attitude that the U. S. market is, or should be, their own special preserve complete with special privileges."

ATMA Salutes Farmers. Alabama Textile Manufacturers Association paid tribute to the state's farmers at its annual public relations meeting in Birmingham last

month. About 110 Farm Bureau officials and their wives attended, many of them as guests of textile mills located in their communities.

CS List Available. A new list of Commercial Standards, including those for textiles, is now available from the Commodity Standards Division, Office of Technical

Services, U. S. Department of Commerce, Washington 25, D. C. Ask for Catalog No. 978, for which there is no charge. The list is revised to July 1, 1959.

Wash-Wear Task Group. A wash-wear task group has been formed at the U. S. Department of Agriculture's Southern Utilization Research and Development Division, New Orleans, La., to coordinate various investigation groups. It will be under the direction of J. David Reid of SURDD. Special emphasis will be placed on commercial possibilities of research developments and contacts and cooperative work with garment manufacturers, commercial laundries, the Institute of Home Economics, state experiment stations, and others engaged in research and practical application of new findings.

Textile Spending Up. America's textile mills will spend more in the last quarter of this year for new plant and equipment than they have spent in any quarter in over

three years. That's the estimate which the U. S. Department of Commerce has just published. The industry is expected to put out $112 million for expansion and

Labor-Management News

All About the Labor Law. Bureau of National Affairs, Inc., has published "The Labor Reform Law," a comprehensive operations manual offering thorough treatment of the Labor-Management Reporting and Disclosure Act of 1959. Authored by BNA's labor relations editorial staff, the 502-page book is available at $8.50 in stiff-paper covers, or at $9.50 in hard covers. Write BNA at 1231 24th St., N.W., Washington 7, D. C.

NLRB Busier Than Ever. Case activity at the National Labor Relations Board during the April-June quarter continued at record levels. The Board issued formal decisions in 699 cases, up 21% over the first quarter; General Counsel issued 297 unfair labor practice complaints, greatest number ever issued in a quarter; and 1,710 representation elections were held, an increase of 34% over the previous quarter.

NLRB Finds Against Mills. Trial board examiners of the National Labor Relations Board have found against textile mills in two recent cases. A cease-and-desist recommendation was returned in the case of alleged discouragement of membership in the Textile Workers Union of America by the Kendall Co., Bethune, S. C. An examiner ruled that J. P. Stevens & Co., Inc., Roanoke Rapids, N. C., engaged in various unfair labor practices, including firing two employees for union activity.

Newly Unionized. Contracts with Textile Workers Union of America were recently signed by Jobern Textile Printing, Inc., New York, N. Y.; Weaving Corp. of America, West Warwick, R. I.; and Charlottesville Woolen Mills, Charlottesville, Va. (recently purchased by Kent Mfg. Co., Clifton Heights, Pa., and expected to reopen by the time this appears in print).

PROVEN SUPERIOR

In actual day to day operation where the real worth of machinery is tested, Sims new Stainless Steel 75 psi reversed dished head 44 Dry Cans* are proven superior. They require less horsepower . . . are easier on bearings . . . and save floor space with no loss in drying surface. And the chain drive is on one side of the can, while the steam fittings are on the other side . . . permitting maintenance of the drive without time lost waiting for steam pipes to cool.
Furnished Teflon-coated if desired.

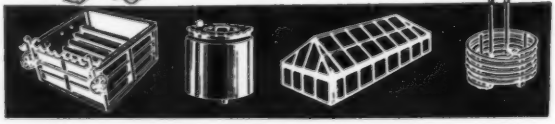
FOR ECONOMY AND QUALITY. Our modern and progressive metal-working shops, our skilled craftsmen, our know how—these are guarantees of quality. For custom tailoring of stainless steel, call, wire, or write *now*.

ASME CODE STAMPED

*U.S. PAT. OFF. NO. 2779104

Fabricated and installed at Lanett Bleachery and Dye Works, Lanett, Alabama by Sims Metal Works.

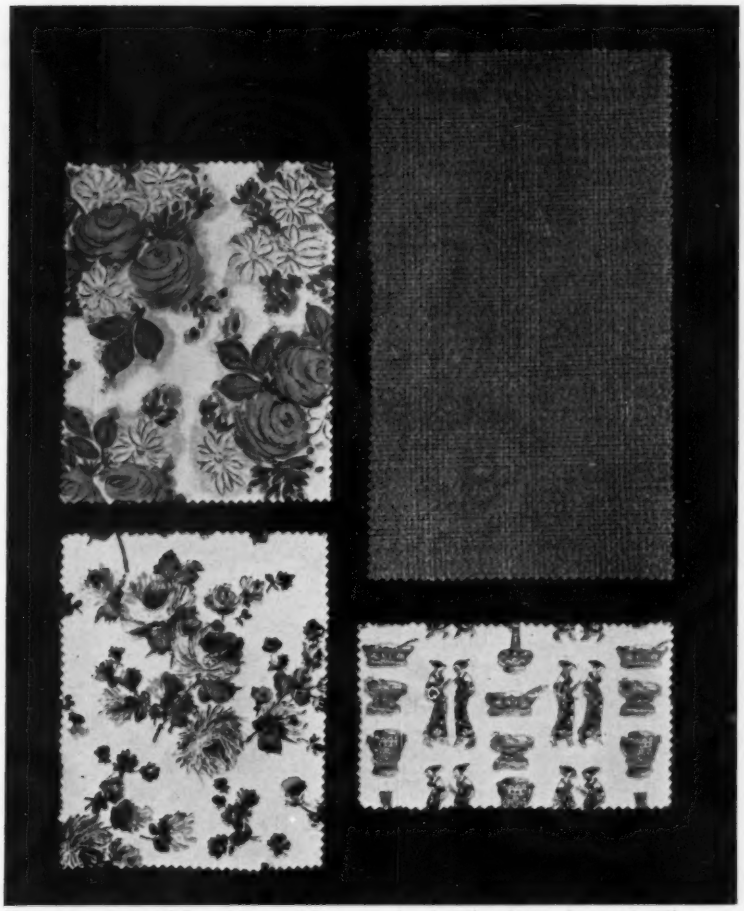
Sims
METAL WORKS
WEST POINT, GEORGIA



Harley D. Hohm, Inc., 128 Buist Ave., Greenville, S. C.

Friday Textile Machine & Supply Co., Gastonia, N. C.

FABRICATORS SINCE 1928



The prints at upper left and lower right are made of 65% polypropylene and 35% rayon; the design at lower left is 100% polypropylene. The glen plaid is a polypropylene-wool blend. The polypropylene is by the Italian firm of Montecatini, which last month began production of polypropylene at a 10-million-lb annual rate, to be upped to 30 million lb next year.

Organ grill of the new Congregational Church in Stoughton, Mass., is hand woven of saran, glass fiber, nylon, and metallic yarns. It combines fire resistance, excellent sound transmission, and an opaque appearance.

First drapery fabric made with Du Pont's heavy-denier Ondulé random-slubbed rayon yarn is "Random Harvest" by Cohama. The fabric was displayed at the recent Home Furnishings Market in Chicago.

modernization during the last three months of this year, topping the outlay for any quarter since July-September, 1956. This will bring the total for the year to $390 million, compared with $288 million in 1958 and $408 million in 1957.

Cotton Marketing System "Utter Failure." Members of the New York and New Orleans Cotton Ex-

changes meeting recently with officials of the American Farm Bureau Federation were in agreement that the system of marketing this year's cotton crop is a "complete and utter failure, destructive of all phases of the merchandising system which must be kept intact." The best remedy is to put into operation in 1960 the program designed for 1961. Under this plan, the support price would be 70% of the average of the crop and the government selling price would be 15% higher. This would enable cotton to move through normal trade channels, members of the two groups agreed.

Textile Loan for Ethiopia. The U.S. will lend $500,000 to an Ethiopian yarn firm, through the Development Loan Fund, to establish a weaving mill near Asmara, Eritrea. The mill will produce sheeting, drills, and shirting, and will employ 500.

Reduced Rates for Machinery Shipments. Truckload rates for shipments of textile machinery

within the South have been reduced, and minimum weight has been increased from 20,000 to 22,000 pounds.

News about

B.F.Goodrich Chemical *raw materials*

Borg Fabrics, Delavan, Wisconsin, make deep pile fabrics using a backing formulated from Hycar by J. G. Milligan Company, Milwaukee, Wisconsin, adding Carbopol prior to use to produce desired flow properties. B.F.Goodrich Chemical Company supplies Hycar latex and Carbopol water-soluble resin.

Here is the backing that fits the knits

Deep-pile knit constructions are finding an ever-widening market, both in the field of fashion and for industrial uses. One basis for this rapid growth is a backing compound made from Hycar latex and using Carbopol water-soluble resin.

Hycar gives outstanding binding efficiency for deep-pile, yielding a back coating that remains stable under aging. The finished construction has excellent dimensional stability and flexibility. In addition, it is washable and dry cleanable.

The maker of this deep-pile knit uses Carbopol to produce optimum flow properties in the backing formulation. A small amount of Carbopol goes a long way toward eliminating strike-through and preserving desirable hand.

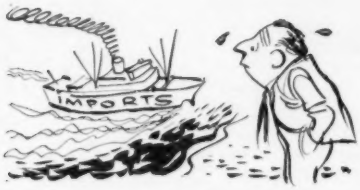
Here's another example of service you can get to produce better textiles for wider appeal, at lower costs. For information, write Department EA-5 B.F.Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

PRODUCTS FOR TEXTILE IMPROVEMENT

B.F.Goodrich Chemical Company
a division of The B.F.Goodrich Company

B.F.Goodrich GEON polyvinyl materials • HYCAR rubber and latex • GOOD-RITE chemicals and plasticizers

Council Stresses Import Problem. In terms of cotton bale equivalents, imports of cotton products have increased more than sevenfold in the past ten years, while ex-



ports have declined 44%, the National Cotton Council pointed out to Agriculture Secretary Benson in a statement asking relief from the increasing influx of cheaply produced cotton products. The facts: Imports of cotton yarns and fabrics have increased in ten years from the equivalent of 38,000 to 273,000 bales of cotton. Exports in the same ten years declined from 954,000 to 539,000. In the case of end products, we have shifted from a net export to a net import position. The Council also pointed out that during the past five years the loss of 159,000 bales to manufactured imports alone has been greater than cotton's loss to competing materials in any market.

Underwear Shipments Up. Shipments of knit underwear, nightwear, and knit outerwear made by underwear manufacturers showed increases both in quantity and value in the second quarter of this year, compared with the first quarter of 1959 and the corresponding quarter of 1958. Shipments in this year's second quarter amounted to $103.8 million, up 13% over the first quarter and 25% above second-quarter 1958.

ATMA Forms IR Unit. Alabama Textile Manufacturers Association has formed an Industrial Relations Division, with A. T. Hanson, West Point Mfg. Co., as chairman.

Auto Leasing Study. The company-owned automobile fleet is headed for extinction, the Foundation for Management Research concludes after a recent study. According to the study, the out-

look is that auto fleet leasing will slowly replace most company-owned cars and about half the salesman-owned cars used by industry. The find is based on a dollar-and-cents comparison of the cost of company ownership, salesman ownership, and leasing. Single copies of the study are available free from the Foundation, at 121 West Adams St., Chicago 3, Ill.

Textiles Still Lag in R & D. Although research and development budgets for the textile companies surveyed increased more than 10% from 1958 to 1959, the textile industry still lags well behind most of American industry in the percentage of the sales dollar devoted to R & D, according to a report by the American Management Association. An analysis of AMA's survey is given in an accompanying table.

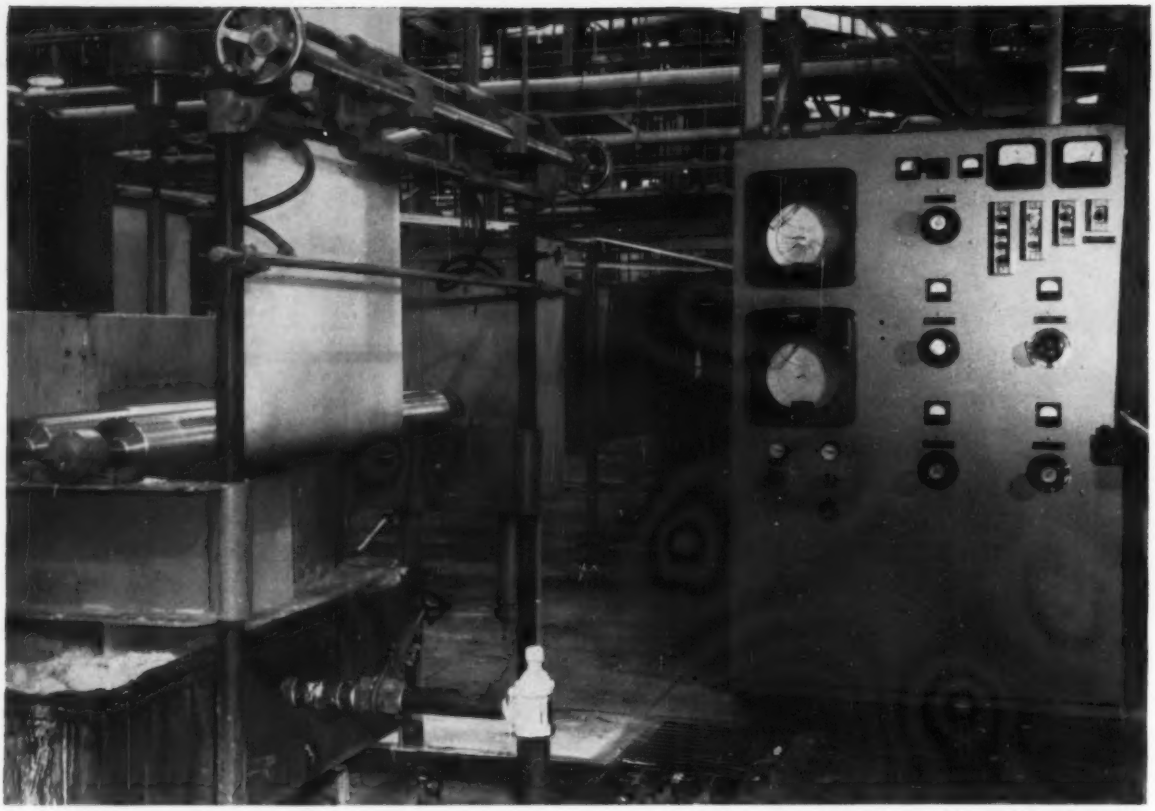
Per Capita Fiber Consumption Up. Americans were using up textile fibers at an annual rate of 35.7 pounds for every man, woman, and child during the first half of this year, according to an estimate by *Textile Organon*. This compares with a consumption of 31.1 pounds per person in 1958. However, while the 1959 figure is 1.7 pounds above the 1955-59 average, it is still 0.3 pound below the 1950-54 consumption.

Heat-Resistant Fabric for Jet. A new fabric with a better rating for heat and flame resistance than stainless steel is being used in America's "hottest" jet bomber, reports the Du Pont Co. The ma-

terial — an asbestos-base fabric coated with synthetic rubber and

Analysis of Research & Development Budgets — 1959

Industry Group	Total	Number of Companies Reporting No. Up	No. Same	No. Down	Average 1959 R&D Budget Increase Over 1958 (%)	1958 R&D Budget % of 1958 Sales
Agricultural Machinery	4	4	-	-	8.8	2.6
Aircraft	12	7	2	3	6.7	3.3
Automobiles	5	5	-	-	32.1	2.8
Chemicals	154	103	8	43	11.3	4.3
Electrical Machinery	40	27	3	10	23.8	4.1
Engines & Turbines	5	3	-	2	2.8	2.0
Fabricated Metal Products	38	19	5	14	5.7	1.7
Food & Beverages	47	36	1	10	10.8	.9
General Industrial Machinery	19	15	2	2	16.3	7.0
Instruments	42	25	3	14	29.7	4.8
Metalworking Machinery	3	2	-	1	21.7	3.2
Miscellaneous Machinery & Parts	9	3	3	3	(—2.5)	3.1
Miscellaneous Manufacturing	68	44	6	18	9.6	2.8
Nonferrous Metals	21	11	2	8	12.4	1.3
Office Machinery	9	8	1	-	13.0	3.0
Paper	26	17	4	5	11.6	.9
Petroleum Refining	19	12	5	2	1.4	1.2
Rubber	12	6	-	6	6.6	9.3
Service Machinery	1	1	-	-	6.0	1.9
Steel	12	5	1	6	2.4	1.1
Stone Clay & Glass	22	13	1	8	7.2	2.1
Textiles	10	3	1	6	10.3	1.4
Transportation Equipment	4	2	-	2	7.5	2.2
Totals	582	371	48	163	12.1	3.2



Foxboro Density Control on Mercerizing Saturator at Grace Bleachery, Springs Cotton Mills, Lancaster, S. C.

Springs Cotton Mills improves uniformity of mercerizing...

Foxboro Automatic Caustic Density Control pays for itself

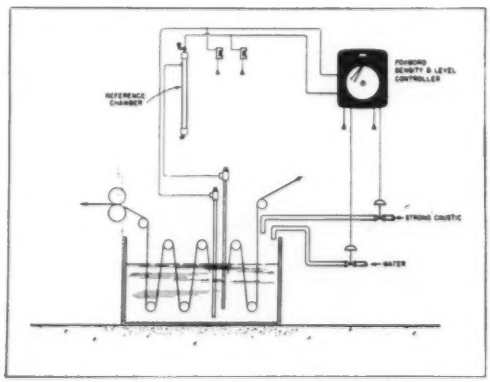
Caustic strength is maintained right where it's set at Springs Cotton Mills' Grace Bleachery, Lancaster, S. C. It's done simply and automatically with a Foxboro Caustic Density Control System.

This system eliminates hand-sampling, log-keeping, guesswork—produces better mercerizing through high uniformity of treatment. Changes in mercerizing speeds, or complete shut-downs, do not affect caustic strength of the bath.

And best of all, since it completely eliminates caustic overcharging, this Foxboro system will pay for itself in a matter of months on caustic savings alone. Little wonder Grace Bleachery now has *all 6* of their mercerizing ranges under Foxboro control.

This cost-cutting, automatic Foxboro system can be installed on new or existing equipment without interrupting operations. Get full details in engineering data sheet 220-8. **The Foxboro Company, 4811 Neponset Avenue, Foxboro, Massachusetts.**

FOXBORO
REG. U.S. PAT. OFF.



Typical application of Foxboro Density Control

Foxboro Density and Level Controller records accurate measurements of caustic density and liquid level. Controller also positions strong caustic and water (or weak caustic) valves to maintain set values.

reinforced with nickel-chromium alloy wire—is used for fire wall seals in the swept-back delta wing of the supersonic Convair B-58 "Hustler."

English to Adopt "Tex." Yorkshire, England, spinners are planning gradual adoption of the "tex" system of yarn numbering (the tex count is the number of grams of the yarn in a kilometer). Starting next January, all yarn counts will be followed by the tex equivalent in brackets. Later, the tex counts will be given, followed by the conventional count in brackets. Finally, the old counts will be dropped altogether. The gradual method of converting to the tex system is that recommended by the International Organization for Standardization. (A discussion of the tex system for yarn numbering appeared in TEXTILE INDUSTRIES for April, 1958.)

Wool Goods Make Comeback. Woolen and worsted fabric production during the second quarter of 1959 was 83.6 million finished

linear yards. This was 15% above the first quarter output, and about 14% above the comparable period of last year.

ACMI Joins IFCATI. American Cotton Manufacturers Institute has been elected to membership in the International Federation of Cotton and Allied Textile Industries. IFCATI is a group of trade associations of spinners and manufacturers of cotton and kindred fibers, representing 17 countries.

Association for Metallics. Producers of metallic yarns have formed a trade association, Metallic Yarns Institute. Officers include Lanier Branson, Jr., Fairtex Corp., Charlotte, N. C., president; Alvin Nadel, Standard Yarn Mills, Inc., Woodside, N. Y., vice-president; and Ralph M. Freydberg, Metlon Corp., New York, N. Y., treasurer.

PTI Enrollment Down. Philadelphia Textile Institute opened its 76th year in September with a total enrollment of 335, down from 375 a year ago. Opening day saw 104 freshmen register, compared with 115 in 1958. The freshman class includes 18 students from 9 foreign countries; of last year's freshman enrollment, 35 came from overseas, representing 12 countries.

Merchandising Notes

Semidisposable nonwoven towel and wiper has been introduced by Chicopee Mills, Inc.

American Carpet Institute reports that 56% of 1,760 carpet retailers replying to a survey are opposed to an industry-wide adoption of the square-foot unit of carpet measurement. The closeness of the vote indicates a substantial change in retailer opinion as compared to the widespread negative reaction voiced when the square-foot proposal was first made almost three years ago, the Institute noted.

Chemstrand Corp. has found from a special survey among store buyers and merchandise managers in 40 major markets that the stretch tight industry is in for a record season.

Matched men's tie and hose sets packaged as Christmas greeting cards are marketed by Fashion Neckwear Co., Inc. A single-tie package is also available.

Dow Chemical Co. reports that three of the new small cars are using interior upholstery fabrics styled with Lurex metallic yarns. Included are the Dodge Dart, Ford Falcon, and Chrysler Valiant.

"Variety Store Merchandiser" lists carry-home rugs up to 9′ x 12′ as the most unusual packaged item now being handled by variety stores.

Cellophane bands make a temporary gift wrap for soft goods, as in Christmas display here.

Lincoln Lace & Braid Co., Providence, R. I., recently introduced shoe laces of "Taslan" textured nylon, the Du Pont Co. reports. User benefits are (1) shoes remain tied until owner wants to remove them and (2) laces are stronger and last longer, according to the announcement.

Grimy Mill Floors are Expensive

Think you're saving money if you let your floors go? Like this? Well, you're not. Here's why.

Foot traffic and rolling equipment grind dirt into improperly finished floors, marring the wood, embedding grit in the surface. Oil and grease from machines leave ugly stains and slick surfaces. If you wet-mop such a wood floor, it deteriorates rapidly. Sanding is no solution since the average maple floor has to be completely replaced after about four sandings.

But, as many of our customers know, there's an easier and more economical way to maintain mill floors.

Minnesota-Treated Floors Look Nicer, Last Longer

Mill floors treated with Minnesota Paints products are tough, stain resistant, dirt resistant, waterproof, long wearing, and attractive. And, they require very little attention to stay that way.

Minnesota tung oil floor sealers and special synthetic resin finishes protect and beautify any good wood floor. Minnesota-treated floors require less scrubbing, less sanding, and less refinishing. Minnesota-finished floors are not maintenance-free, but the regular, dry cotton mop buffing recommended is light, fast, easy.

Minnesota Paints' staff has had years of experience with textile mill floor finishing problems. Call or write for a service demonstration. No obligation. *Call* PLaza 3-5151, Atlanta, Georgia; or *write* Minnesota Paints, Inc., 1314 Murphy Ave. S. W., Atlanta. Our floor experts will show you how to reduce floor maintenance costs while making your floors last longer and look nicer.

Minnesota PAINTS

MINNESOTA PAINTS, INC.
MINNEAPOLIS 15, MINNESOTA
PLANTS: *ATLANTA • MINNEAPOLIS • FT. WAYNE • DALLAS*

RECENT TECHNICAL AND COMMERCIAL DEVELOPMENTS

by J. B. Goldberg
Consultant to the Textile and Allied Industries

Exclusive

FIBERS AND YARNS

Bulked Filament Yarns. Manufacturing rights in Great Britain for a new process developed by Cheslene & Crepes, Ltd., Manchester, have been acquired by the Imperial Chemical Industries, Ltd. Yarns bulked by the new method will be offered by six English firms which have been licensed. The technique is said to be particularly suited for Terylene polyester yarns and applicable to circular and warp knitting as well as to weaving.

Italian Polypropylene Fiber. The Polymer Co., associate of Montecatini, has adopted the name of "Merkalon" for the polypropylene fiber to be made at Termi, Italy. The new installation is said to have a capacity of 5,000 tons of staple and film annually.

Vinal Fiber. Further details of the Japanese polyvinyl alcohol fiber, licensed for manufacture in the U.S. by the Air Reduction Chemical Co., were disclosed at a recent meeting of the American Association for Textile Technology in New York. Imported fiber is now available in this country in 1, 1.4, and 3 denier sizes at 85¢ per lb, with pilot plant quantities of 600 and 1200 multifilament yarns, 6 denier per filament, now undergoing evaluation. A new wet-spun type, 5F, with a kidney-bean cross section, is said to have abrasion resistance about double that of cotton, while another monofilament and multifilament type, FO, is intended for use in tire cord, claiming a tenacity of 9 grams per denier at 10% elongation.

Crush-Resistant Cellulosic Fiber. The American Viscose Corp. has received a patent on the production of what has been described as a "crush-resistant textile." The product consists essentially of a regenerated cellulose which contains from 1-5% of a polymerized water-dispersible polyacrylamide.

Improved Regenerated Cellulose. Recently assigned to Courtaulds, Inc., was a U. S. patent for a method to improve the properties of regenerated cellulose by impregnating it with a heat-hardenable resinous material.

Sparkling Nylon. The Du Pont Co. is introducing a new type of 15-denier nylon for hosiery described as "sparkling" nylon. Unusual effects are said to be obtainable in dyeing of this yarn, suggested for special dress-up and evening hosiery. Yarn is priced at about double that of standard 15-denier hosiery yarn and initial full-fashioned and seamless hosiery to appear on the market this year will retail at from $1.95 to $2.50 per pair. Reports indicate that high luster is obtained through use of Y-shaped filament cross section.

MACHINERY AND PROCESSES

Control of Knitting Quality. A "positive feed" mechanism for the automatic control of knitting has been developed by the British Hosiery and Allied Trades Research Association. The system is now being used on circular hose machines and various single and twin feed machines, knitting plain or mesh structures, and is said to assure constant leg and foot sizes during knitting. It is also claimed that the number of imperfections due to incorrect sizes and similar faults is greatly reduced, at the same time improving stitch structure.

Knitting Unprocessed Nylon. From England there are reports of a new method of knitting unprocessed nylon yarn into the welts and panels of circular-knit hosiery said to provide a savings because the yarn is about one-third as expensive. The yarn is fed continuously through a small metal box containing a heating element just above the machine knitting head. The relaxed yarn, in a semi-plastic condition, is reported to yield greater stitch regularity, improving hose quality with no slowdown of operations. Experimental use on full-fashioned machines is now under investigation, but application is more complex because heat must be applied at intermittent intervals.

Russian Carding Machine. A new rapid carding machine is reported to have been developed in the U. S. S. R. with capacity of about 44 lb per hour. One card by the Leningrad firm of Vulkan Machine Co. was awarded a grand prize during the Brussels World Fair. The new model is about 25% smaller than other Soviet cards and weighs 1700 lb less.

Universal Spinning Unit. A Montreal inventor recently received a U. S. patent on a false-twist-type spinning and twisting apparatus adapted to impart positive twist to a fiber roving, strip, or yarn.

FABRICS AND FINISHES

Wool Stabilizing Process. Process developed by the Fiber and Forest Products Research Institute in Israel involves treatment with potassium bromide. Report cost increase of about 1-3% for finished goods. Two Israeli plants now licensed and some American firms are said to be interested in this new process.

Nap Control Device. British Shirley "raising action indicator" operates by measuring energy imparted by card rollers of the machine to the fabrics passing over them. Operator can control desired degree of napping by turning a hand wheel. Device said to be suitable for all types of knitted

Continued on page 97

Using Salt Efficiently

by INTERNATIONAL SALT COMPANY, INC.

Unloading and Storing Bulk Salt in One Operation...by Hydraulic Handling

Many companies faced with the need to unload and store large shipments of bulk salt have installed Hydraulic Handling systems. In these systems, salt delivered by car, truck or barge is dumped into a pit and mixed with saturated brine. The slurry is then pumped into a wet salt-storage tank. Overflow carrier brine returns to the pit to carry more salt into storage. The operation, besides being continuous, also offers these important benefits:

Hydraulic Handling can move salt any distance. Because the necessary piping is flexible and can be installed anywhere, there's no need to move existing equipment or disrupt important operations. Hydraulic Handling is dustless, safe, and more economical than many mechanical handling systems. One man can operate it. Maintenance is negligible. And, to handle larger salt shipments as production increases, the system can be expanded at nominal expense.

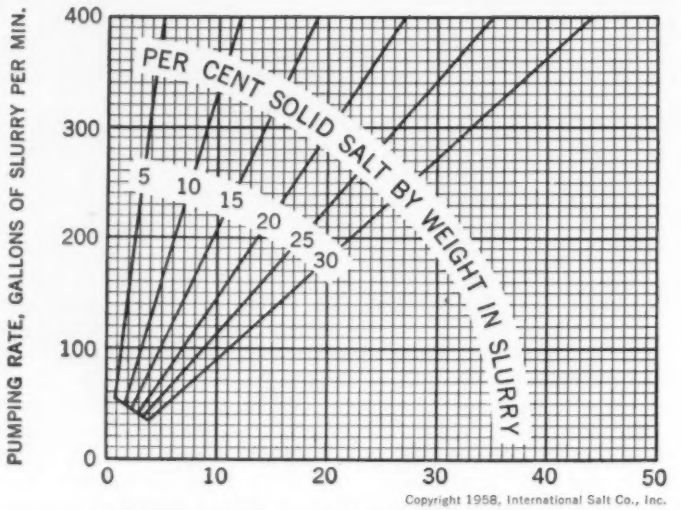
While any Hydraulic Handling installation provides these benefits in some degree, only sound engineering can assure 100% efficiency and economy. Here are a few of the factors that are important to the proper function of every Hydraulic Handling system . . .

Pit design. This differs according to whether salt is delivered by hopper car, boxcar, truck or barge. Where excavation is difficult, special designs are available from International Salt Company for building shallow pits that will operate effectively.

Pump types and capacities. To move salt into storage, a special "solids-handling" pump is needed. This pump, often the only moving part in the entire system, must be able to speed salt slurry through pipes at a rate high enough to assure that salt particles will not settle and eventually clog the piping.

Some plants also use a high-pressure brine pump to bring circulating brine back to the slurrying pit. Both pump types are available in a choice of materials (white or gray iron, manganese steel, etc.).

Pipelines, valves. Pipelines should have long, straight runs, with as few elbows or other fittings as possible. Valves must offer minimum resistance to the flow of slurry.



Copyright 1958, International Salt Co., Inc.

For expert advice on the most practical Hydraulic Handling system for your plant, contact International Salt Company. One of International's experienced sales engineers will gladly furnish information on minimum clogging and settling velocities . . . liquid-level controls for slurrying pits . . . dilution valves for proper slurry make-up . . . and other factors that go to make an efficient, trouble-free Hydraulic Handling system.

50 YEARS OF SALT EXPERIENCE CAN BENEFIT YOUR COMPANY

From 50 years' field experience and a continuing research and development program (the first ever established in the salt industry), International has accumulated an unequaled amount of technical data on salt—its production properties and uses. Our engineers will be glad to make this information available to you without charge. They can also help you select the right salt for your needs—from the complete line of high-quality Sterling Rock and Evaporated Salt. Contact your nearest International Salt Company sales office, or write to us direct.

International Salt Company, Inc., Scranton 2, Pennsylvania • Sales Offices:

Boston, Mass.	Chicago, Ill.	Newark, N. J.	Philadelphia, Pa.
Buffalo, N. Y.	Cincinnati, O.	New Orleans, La.	Pittsburgh, Pa.
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	Detroit, Mich.		

Service and research are the extras in

STERLING SALT

INTERNATIONAL SALT COMPANY, INC.

EXECUTIVE VIEWS

Prepared by a man who is closely identified with the textile industry.

The textile industry and the wolves

THE NEW DEAL gave us a very descriptive term in the word "boondoggle." A boondoggle was a project for spending money for the sake of getting it spent, and the amount of direct good done by the money was inconsequential.

The indirect good was supposed to proliferate in every direction and give the whole economy a useful lift. It always succeeded in giving the national debt a useful lift, whether it was of any permanent benefit to the economy or not.

Our foreign aid program seems to be pretty much of a boondoggle. Every year we sprinkle around the world three or four billion dollars in an attempt to make friends and influence people. That we can buy many friends this way is doubtful, and the influence doesn't seem to be any too beneficial either, since some of the recipients of our largesse have tossed rotten eggs and elderly vegetables at the Vice-President of the United States as tokens of their displeasure over not getting as liberal handouts as they had hoped to get.

Even by the most hopeful estimate, around half of anything the government spends is going to be wasted; and in plain and fancy boondogglery, like this foreign aid scheme, the wastage can run a good deal higher than 50 per cent. Much of the money that we furnish to foreign governments is allegedly stolen by corrupt politicians, and the common people whom we are trying to uplift are only benefited by the blessings of inflation created by handing a lot of money over to the upper echelons to spend.

ALL OF THIS money which we hand out to foreign countries is useless to them except for purchases of goods originating in the United States, or for purchases of goods in some other country that has an eye on some of the hard cash in Fort Knox. Most of the money is undoubtedly spent for American produce.

Some of our produce is graciously handed out as a gift to needy countries here and there, and thus we are able to get rid of some of our troublesome surpluses under the guise of foreign aid. The Marshall Plan came like soothing balm to a harried Administration, fretting over what to do about gigantic farm surpluses. We were able to dump several million bales of surplus cotton in European countries as a gift of the American taxpayer for the benevolent purpose of helping to ruin the American textile industry.

When we dump wheat to ease the pain of our grossly inflated wheat surplus, we may make some dubious friends in the countries which get the wheat, but we antagonize Canada and other countries which produce wheat, because our handouts wreck some of their markets. The foreign aid boondoggle has been a great blessing to the socialistic farm plans which aim at making the farmer prosperous by forcing the general taxpayer to buy up a lot of farm produce that nobody wants. This surplus stuff from the farms is bursting warehouses, granaries, and cold storage plants at the seams, but some relief can be had by giving this stuff away in exchange for somebody's friendship in Africa or Asia.

THE NET economic effect of this foreign aid boondoggle is about the same as the typical New Deal boondoggle. The three or four billion dollars that we allocate to various foreign countries will come back to the United States to buy various goods, and thus tend "to make business good." The expenditure of this money therefore has the same effect on our economy as the creation of three or four billion dollars' worth of any inflation in a given year. The elimination of the foreign aid would have a serious effect on the national economy, just as the elimination of any three or four billion dollars' worth of government boondoggling would have a serious effect on the economy.

We have a parallel case in the housing subsidies. It sems to be

TUFTED TEXTILES

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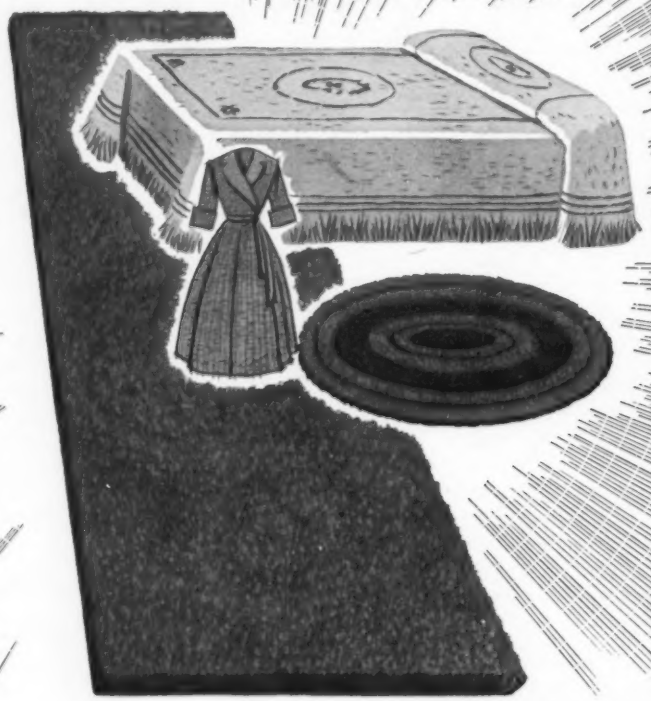


FACTORING DEPARTMENT

TRUST COMPANY OF GEORGIA
ATLANTA

Next door to every Mill in the South

pretty well established that the building industry would almost completely collapse unless propped up by government subsidies. The building trades unions have jacked their wages up to such an unconscionable point that very few persons could afford to build a house if they had to use their own money.

The government very neatly solves this problem by putting up the taxpayers' money to subsidize housing. The scheme may look very reasonable and logical as presented by the boondogglers, but the net effect of it is to use taxpayers' money to subsidize the building industry.

Another heavily subsidized industry is air transport. If the airlines had to furnish all of their terminal facilities on the same basis as the railroad companies, and if the government did not hand out such lush bounties in air mail contracts and sometimes in direct grants, the entire air transport industry would have been severely slowed down in its development.

To a dyed-in-the-wool boondoggler, the principal criterion is getting something done regardless of cost, and irrespective of the propriety of doing it in the manner advocated by the boondoggler.

ALMOST ANY civic venture involving the expenditure of money must be heavily boondoggled by the federal government to make it click. If bridges are to be built or traffic ways constructed or housing projects undertaken, a succulent award from the federal government is a *sine qua non*. It just doesn't occur to the citizens of a city that they can pay for things like this themselves.

In buying equipment for its many boondoggles, such as the TVA, the government is severely critized if it places an order with some English or European firm at a price which will save the poor taxpayer some of his money. The electrical workers' unions, for example, have raised an awful racket about the purchase of some foreign electrical equipment at about 40 per cent less than it would cost to make it in this country with the inflated wages paid the electrical workers.

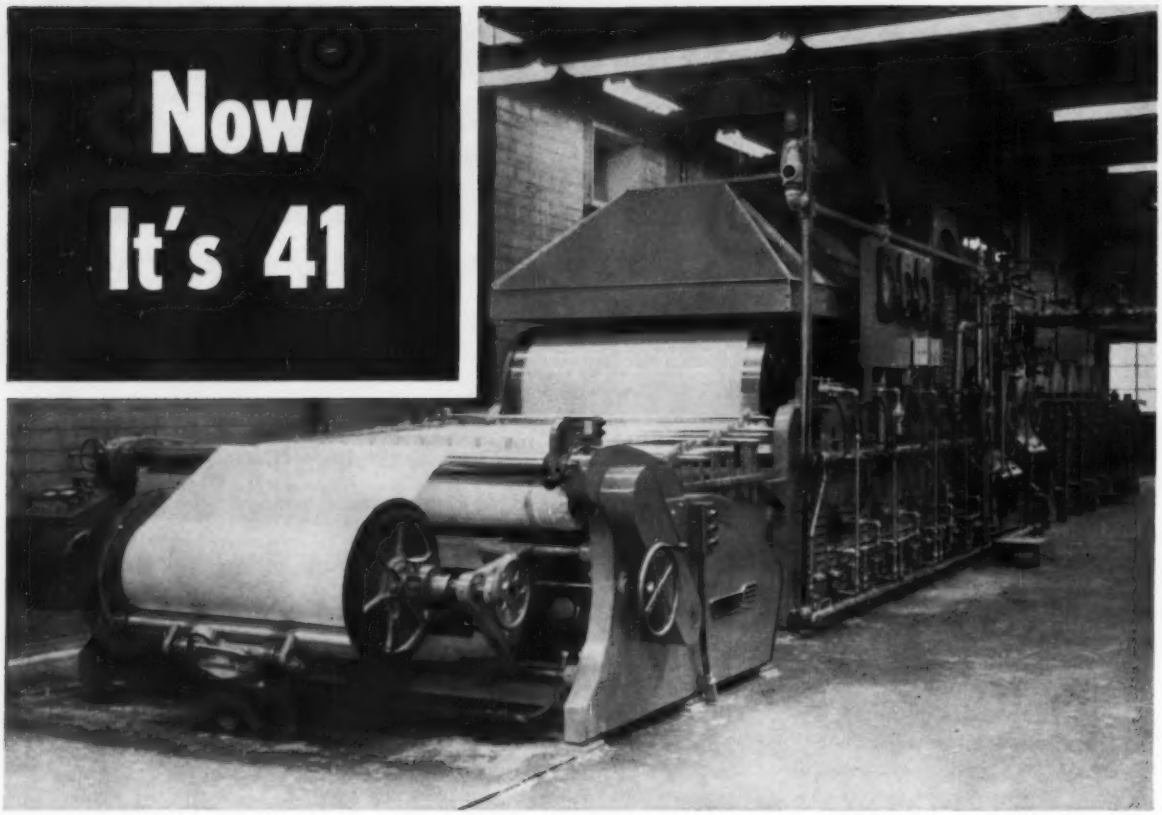
It never for a moment occurs to these electrical workers that the taxpayer is entitled to a break, and that if the government wants to buy something it ought to buy it where the price is right. Instead

Continued on page 106

FUTURE EVENTS

Date		Event	Location
Nov.	5	Textile Research Institute seminar on chemical structure of viscose	T.R.I. Princeton, N. J.
	5-6	Industrial Engineering and Management Clinic	Conrad-Hilton Chicago, Ill.
	7	Mid-West Section AATCC	Bismarck Hotel Chicago, Ill.
	9-10	Narrow Fabrics Institute annual meeting	Hotel Biltmore New York City
	10	Fabrics Maintenance Conference	Ga. Tech Atlanta, Ga.
	18	Tufted Textile Manufacturers Association interim workshop	Chattanooga, Tenn.
	19	Textile Research Institute seminar on Differential thermal analysis of textile materials	T.R.I. Princeton, N. J.
Dec.	4	Northern New England Section AATCC joint symposium with ASME Textile Engineering Division	Smith House Cambridge, Mass.
	5	Piedmont Div. Southern Textile Association, 9:30 A.M.	Johnston Memorial YMCA Charlotte, N. C.
	5	Southeastern Section AATCC	Atlanta Athletic Club Atlanta, Ga.
1960			
Jan.	22-23	Piedmont Section AATCC	Poinsett Hotel Greenville, S. C.
	25-28	Plant Maintenance & Engineering Show	Convention Hall Philadelphia, Pa.
Feb.	8-9	National Cotton Council annual convention	Dallas, Texas
	18-19	American Society for Quality Control Textile Section annual conference	The Clemson House Clemson, S. C.
Mar.	10-11	Fiber Society	Roosevelt Hotel New Orleans, La.
April	7-9	American Cotton Manufacturers Institute annual meeting	Americana Hotel Bal Harbor, Fla.
	29	Underwear Institute annual meeting	Hotel Biltmore New York City
May	19-21	Georgia Textile Manufacturers Association annual meeting	The Diplomat Hollywood, Fla.
	23-27	American Textile Machinery Exhibition	The Auditorium Atlantic City, N. J.
	25-28	Tufted Textile Manufacturers Association annual convention	The Fountainebleau Miami Beach, Fla.
	26-28	South Carolina Textile Manufacturers Association annual convention	The Cloister Sea Island, Ga.
May 31-June 2		Cotton Research Clinic	Grove Park Inn Asheville, N. C.
June	23-25	Southern Textile Association annual meeting	Grove Park Inn Asheville, N. C.
Oct.	3-7	Southern Textile Exposition	Textile Hall Greenville, S. C.
	5-8	Carded Yarn Association annual meeting	Grove Park Inn Asheville, N. C.
	6-8	AATCC national convention	Sheraton Hotel Philadelphia, Pa.

Now It's 41



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The Cocker GH Slasher

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WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

Textile Industries
FOR NOVEMBER 1959

What was new at Milan

by TI's
European correspondent

WITHOUT a doubt the most interesting developments shown at the huge E.I.A.T.* 1959 Fair in Milan in September were to be found in the weaving hall, or at least nearby. E.I.A.T. was the third post-war international textile machinery exhibition and here were to be seen the fruits of considerable research into weaving techniques.

WEAVING

Main emphasis lay in two aspects of weaving: filling insertion and filling replenishment.

As far as the method of insertion was concerned, interest centered on the *Maxbo* pneumatic loom, to be built in the U. S. A. by Abney Mills. Throughout the ten days of the fair there was a constant throng of people watching this quiet-running loom inserting filling with a jet of air at 328 ppm. The cloth width has now been upped to about 48 inches. The speed of the machine has also been increased compared with models seen only a year ago.

Mr. Paabo, the inventor of the

*Esposizione Internazionale Attrezzature Tessili—International Textile Machinery Exposition.

MILAN WAS THE BIGGEST

E.I.A.T. 59 was the largest textile machinery exhibition ever held anywhere—there were more than 600 exhibitors, and they occupied an exhibition space of about 400,000 sq ft. For comparison, the American Textile Machinery Exhibition-International, to be held at Atlantic City next May, will have an exhibition space of 300,000 sq ft and an estimated 450 exhibitors.

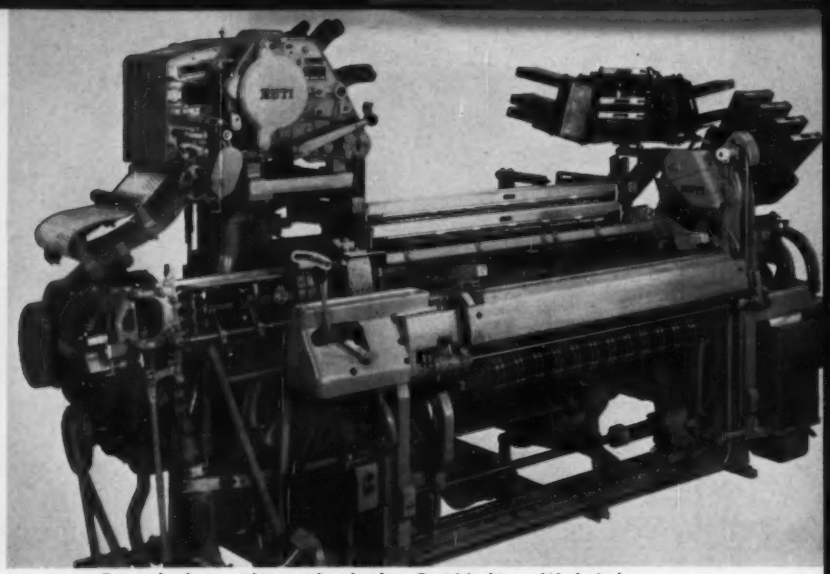
There were 22 American textile machinery firms represented at Milan; their exhibit space totaled about 13,500 sq ft. In this report comparatively little mention has been made of the American exhibits—most of the products displayed have been described in previous issues of "Textile Industries."

A surprisingly large number of American mill men visited the Milan Show. And of course an unestimated but certainly very large number of American textile machinery manufacturers, both exhibitors and nonexhibitors, were in Milan to get a firsthand view of what their European competitors will be throwing at them next.

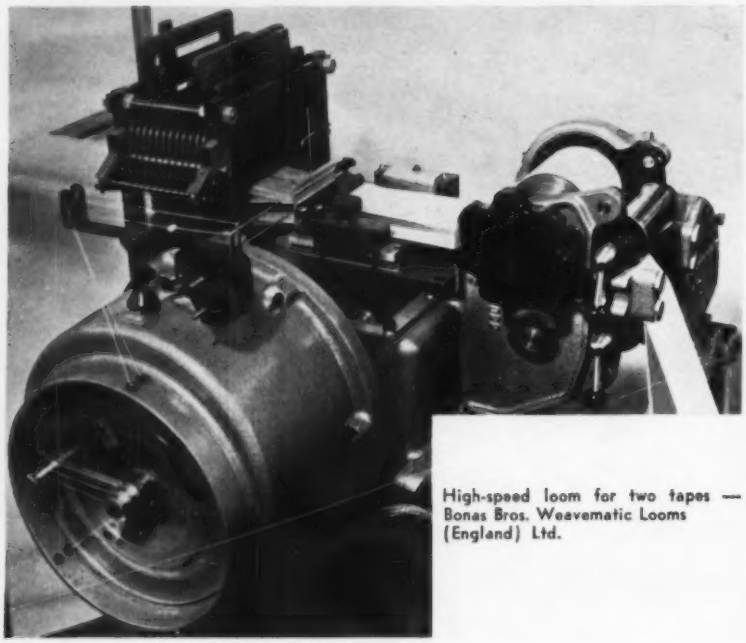
Obviously, only the highlights of this huge exhibition could be covered in TI's report. Readers who would like to have more information on any of the exhibits are invited to write to The Editors, "Textile Industries," 806 Peachtree St., N.E., Atlanta 8, Ga.

THE EDITORS

Box loader — Ruti Machinery Works Ltd.

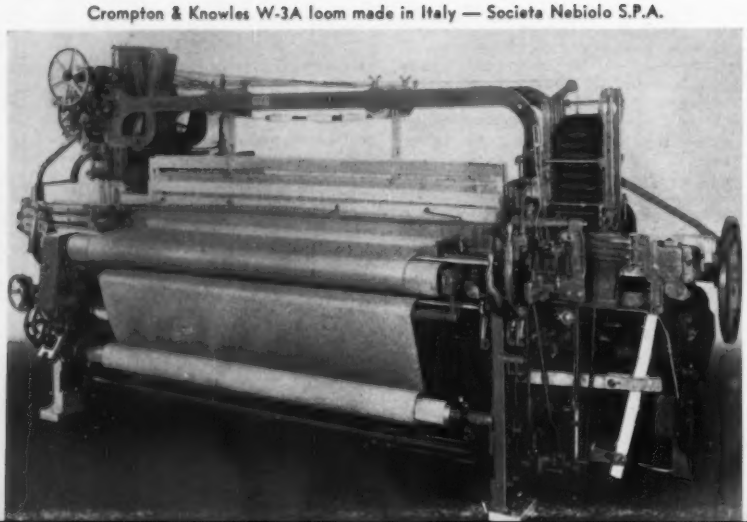


Four-color loom with turret box loader—Ruti Machinery Works Ltd.



High-speed loom for two tapes — Bonas Bros. Weavematic Looms (England) Ltd.

Crompton & Knowles W-3A loom made in Italy — Societa Nebiolo S.P.A.

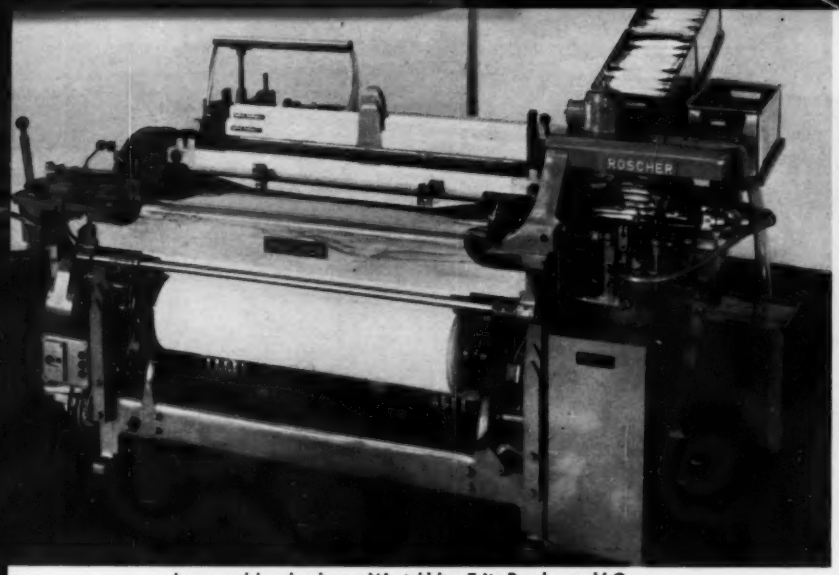


machine, said to TEXTILE INDUSTRIES that it was not expected that the width of the loom would be increased very substantially in the immediate future as the technical and mechanical problems involved were very considerable. The loom was weaving, however, a very even cloth of a standard cotton print construction with a speed and quietness that was extremely impressive in a very noisy exhibition hall containing almost all the looms on show.

At Brussels in 1955 a very interesting little loom was shown by Ancet Fayolle. This was a rapier machine and it has now popped up again, this time made in Spain, under license by *Maquinaria Textil del Norte de Espana.* This is a very neat little loom, but its obvious limitation is its width although, Mr. Trius of the firm pointed out, it is possible to conserve much of the extra width required by the rapier motion, by positioning the looms back-to-back and staggered.

This machine was working a fine filament warp and filling and was running at 135 ppm. It was explained that as filling suply was from large-capacity bobbins labor requirements could be reduced and 148 looms per weaver was theoretically possible, although a slightly lower load was recommended.

The cloth is a regular construction, but the filling is inserted in cut lengths and locked into the selvage with a leno motion. This

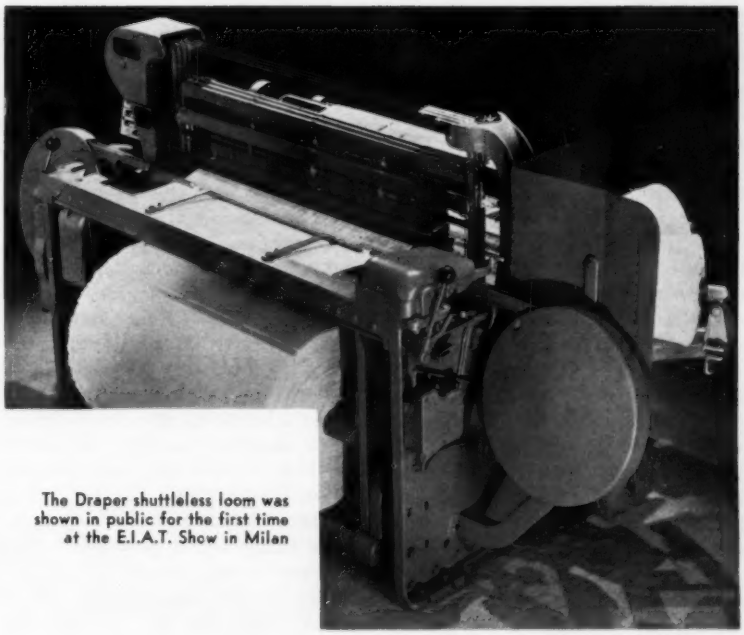


Loom and box loader — Westuhblau Fritz Roscher o. H.G.

Pirn stripper for bobbin changers — Rohl.

is a good edge, but there is a slight fringe on each side of the fabric which would certainly detract from its counter appeal. There is now filling selection on the machine and looms are being built with 8, 12, and 15 color selection. Single picks can be selected and inserted at will.

Mr. Trius said that they had taken a group of 25 of the new looms in Spain, where his firm also manufactures fabrics, and run them solidly on shifts for one year. At the end of this period various moving parts on the looms were exchanged and they continued to run perfectly satisfactorily. This point was used to demonstrate that the constant circular motion of the picking system used for this rapier is extremely gentle to the machine as a whole, which benefits from the cyclic motion.

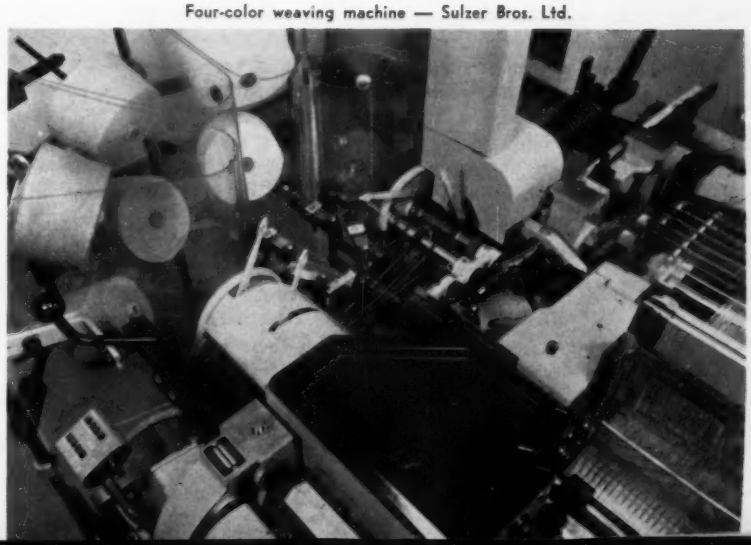


The Draper shuttleless loom was shown in public for the first time at the E.I.A.T. Show in Milan

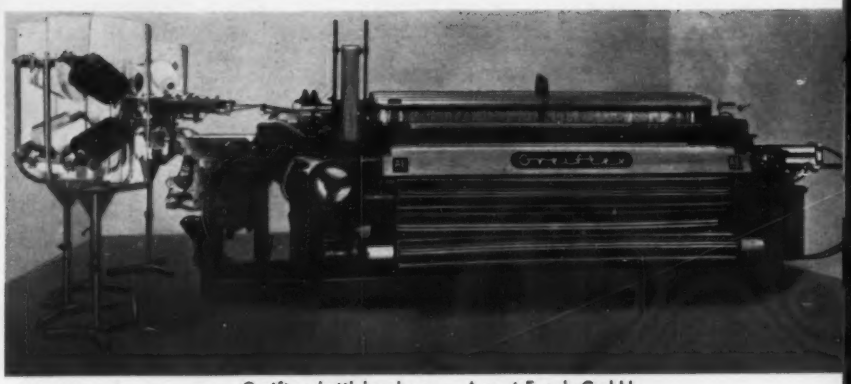
Some years ago—also at Brussels—another rapier loom was shown. This was the French loom developed by Raymond Dewas. At that time it was thought to be rather complicated and certainly too space consuming. Mr. Dewas has now turned his attention to using a flexible steel tape for filling insertion. This is perforated down the center and activated by a cog.

At Milan the Dewas loom, in this newly modified form—the Greiftex loom—reappeared in the booth of *August Engels GmbH*, where it was demonstrated weaving cloth with an eight-color fill-

Four-color weaving machine — Sulzer Bros. Ltd.



Ustermatic warp tyer — Zellweger A. G.



Greiftex shuttleless loom — August Engels GmbH.

ing. There is a fringe on one side of the cloth, while on the other is a tucked-in selvage. Mr. Dewas, who was at the show, said that up to 90% of filling yarn waste could be saved with this machine weaving from large capacity packages.

It is obvious that the machine still needs further development, as it was only shown weaving a very coarse cloth, but for anyone who saw it, it could be appreciated at once that the system is sound. Provided good selvages of the tucked-in type can be accepted, then the loom has very great advantages.

In an interview with TI's representative, Mr. Dewas said that he was delighted with the progress that Engels had made with his system, but that he was not going to restrict it to this one firm. He plans to license loom builders in other countries to manufacture it.

The steel tapes for filling insertion are introduced across the shed from each side; and although the concept is extremely attractive it was the view of several mill men that the loom was not as good—yet—as the *Draper Corp.* shuttleless loom, which also made its public debut at Milan. The Greiftex loom was weaving wider fabrics, but Draper representatives said that they have built looms of 40, 44, 46, and 50-in. widths and that this is certainly not the limit.

Asked about the fringe on one side and the folded—or wrapped around—selvage on the other, a representative of the firm said that they had not found this to be any problem as far as finishing was concerned or in disturbing customers. The 600 machines already running in the U. S. A., he said, were working to capacity and the cloth from them was to everyone's satisfaction.

The machine on show was working at 250 ppm. The solid steel tapes are driven by a wheel on each side and these tapes meet in the center of the shed, this being about half the circumference of the wheel. Shoes around the wheel guide this tape and prevent deflection. Asked what would be the effect of say a stoppage in a particularly strong filling yarn, we were advised that the tape might jump up, but that it would pass through the upper warp sheet without breaking it.

The main controversy, however, was that of the Unifil loom winder versus box loading.

That *Universal Winding Co.* (now rechristened Leesona Corp.) believes it can corner a big part of the European market is amply demonstrated by its bid for the control of Thomas Holt, Ltd., in Britain, a firm well suited for producing the machine and at a price more attractive to European firms.

Unifil was shown on many looms, including *Picanol, British Northrop,* and *Saurer.* The loom winder is essentially a development intended for fitting on new looms, or at least on looms that are not very old. Just how attractive the costs will be compared with box loading remains to be seen.

Manufacturers in Europe feel that if their existing filling winders can be modified to make the packages suitable for one or other of the box loading systems, then it might be preferable to buy one of these instead of Unifil. This is always assuming they have a good filling preparation section already.

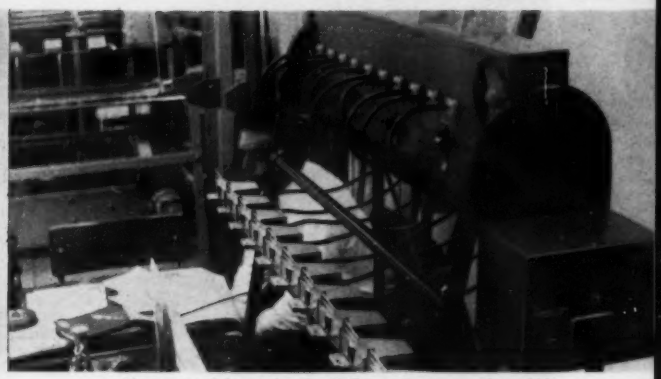
The most publicized box loading system is that of *Georg Fischer A.G.;* but with this it is necessary to buy not only the units, but also compressed air equipment, boxes, and a good stock of quills. This all adds to the cost of the initial installation and may swing firms towards Unifil.

The Fischer system is certainly very clever and it requires a quill with a nose bunch, as does a system introduced by the German firm of *Webstuhlfabrik Fritz Roscher o. H. G.,* which has a somewhat simpler system that is certainly cheaper than the Fischer box loader. This Roscher unit suffers from a small fault that could operate against it in that it does not continue to reach for a filling bobbin should there be any sticking in the system, while the Fischer does continue to reach.

From Sweden, *Texo A/B* came with a box loading system which is also pneumatically operated, but in this instance there is no need for a nose bunch on the filling bobbin. The difficulty with this arrangement—and it is only relatively small—is that the box handler has to lift up the box of full bobbins and invert it over the supply section. A retaining plate is then withdrawn and the bobbins are allowed to feed to the system. This unit is designed with traditional Swedish thoroughness.

Ruti has approached box loading from a completely different

Warp tying machine on Helanca yarn — Masch. Oskar Fischer.



Electronic slub catcher for B-C spooler — Qualitex N.V.

standpoint. Their engineers have decided that if they can solve the four-color problem, then the main difficulty is solved. As a result they have shown one, two, and-four color box loading filling changers.

On the four-color unit a stack of filling magazines is stored in a turret system, and as a magazine runs down it can be replaced with a new one. Each magazine contains about 12 filling bobbins of a particular color, while the turret is arranged so that there are four groups of magazines, each for a particular color.

The magazines themselves closely resemble the bullet magazines used to feed vertically into machine guns during the past war. Ruti Machinery Works Ltd., showed their four-color system on the BANGTW/4 (MM) loom, while they also featured a fine-filament rayon box loader, which was the only one in the show.

Saurer have felt that the idea of introducing a system of compressed air for catching the loose end of filling yarn is perhaps good but that it would be preferable to use a purely mechanical system for collecting the end. This they have done on their own design of box loading system, which appears to be somewhat complicated in its handling of the bobbins, but which does not require the addition of compressed air into the weaving shed.

The impression given by all these systems is that there is still much work to be done on them all before perfection is finally reached, while the Unifil has the edge over them by being fully developed, tried, and proven in practice—witness the vast orders placed for it.

If box loaders do become popular, and it is certainly very likely that they will capture a part of the market, then the problem of filling bobbin stripping will remain. This is still a big problem in mills using the ordinary circular battery.

The most interesting weaving accessory at Milan was the item shown by *Georg Rohl*, who has evolved a bobbin stripper for fitting to the loom. It is driven directly from the loom shaft and is reported to be suitable for all types of bobbins. If a bobbin is presented to it with too much yarn on it, then the unit rejects it and it can be used again. It is exceedingly cheap and a cost of under $70 was mentioned at the show, although freight from Europe would inevitably bring this up.

It is worth noting that the Italian loom builders who exhibited in Milan showed a considerable lack of inventiveness, and the one great development by Gentilini-Ripamonti was not to be seen. This group of builders appeared to be happy to concentrate on existing looms and even to build Swiss and American machines under license.

To revert for a moment to box loaders described above, it is evident from those on show that the various loom builders are making a very strenuous effort to corner this market as quickly as possible before Unifil gets it first. We can, therefore, expect many future developments within a compartively short time from this section of the industry.

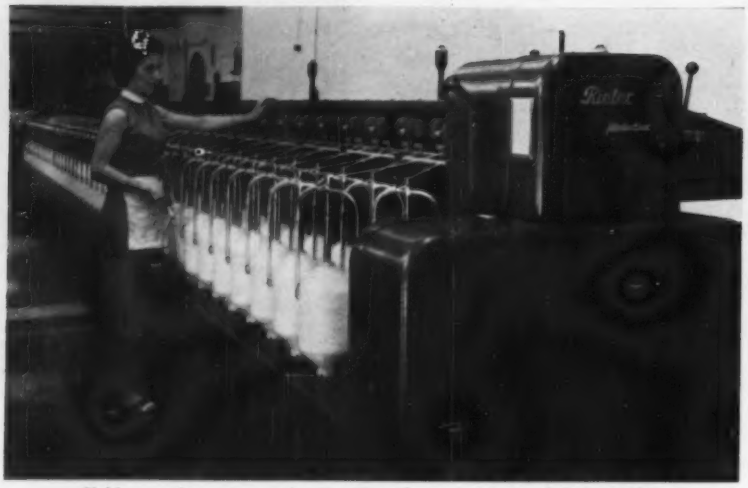
OPENING—SPINNING—TWISTING—WINDING

Although by far the most interesting section of the exhibition was weaving, everywhere else there were to be found new developments of considerable moment.

The *Roberts* Arrow frame which has already been well received in the U. S. is now being built in Europe by *Hobourn-Roberts Co., Ltd.*, who will be at Burton-on-Trent, England. The frame, which is designed for cotton or worsted spinning, is fitted with the Permaset drafting system that never needs be reset, but which can be varied along the entire length of the frame simply by changing the gears at the end.

The worsted frame was also shown spinning cotton on one spindle while all the others were on a fine worsted yarn. This proved the versatility of the machine and Mr. Goodard, new sales manager of the firm, said he was extremely pleased with the interest with which the machines had been received in Milan.

Cotton spinners showed interest in the Multi-Cleaner of *Gesellschaft fur Textiltechnik GmbH*, which operates as a single unit, opening and cleaning the fiber in



Slubber produces six-pound, 14" x 7" package — Joh. Jacob Rieter & Cie.

a single stage. It is claimed that it lowers the waste fiber level and yet gives an increased cleaning effect. Certainly it does reduce the number of beating points and it is well suited to fitting into a line. Mr. Bisinger, inventor of the system, claims that Uster evenness tester readings have shown that this method has given yarns of improved strength and evenness. The advantage is, of course, that it can take over all pre-opening and cleaning work.

A prototype of an electronic automatic drafting control (ADC) system was exhibited by Saco-Lowell Shops and Zellweger, Ltd., built into the Saco-Lowell Versa-Matic draw frame. The device automatically varies the speed of the front roll to compensate for changes in sliver weight. The ADC system will not be available as an attachment or changeover for any present frames, and it may be close to a year before production models are available. According to Saco-Lowell, a mill trial installation showed that the Versa-Matic ADC frame improved breaking strength of yarn, reduced the variation in breaking strength, improved elongation and count variation, and as a result spinning frame stoppage was greatly reduced and efficiency correspondingly increased.

On the subject of evenness, it was interesting to see the newly developed *Qualitex* electronic slub counter. This consists of a six-spindle, variable-speed winding machine which has six detector heads with yarn guides. There are two sliding frames for 19-in. standard rack mounting. The first panel of the slub counter has three counter sub-units for the first three spindles and also the feeding unit controls for the entire instrument; while on the second panel there are three counter sets and a measuring instrument that belong to section six.

Each counting unit comprises four counters mounted in a column. Finally there is a recorder for the output voltage of the measuring amplifier. The Qualitex counter is basically a research instrument, but it can also be ideally used for checking yarn quality. The four counter units for each winder head measure four types of slubs, giving a total number for each type, which relates directly to say one pound of yarn and it also gives a total of all types of defects in the yarn.

The Qualitex electronic slub catcher has been modified and a special one is now available for fitting to Barber-Colman spoolers, while another type has been developed for exclusive use on the Schlafhorst cone winders.

While Qualitex has turned its attention to slub counting, *Zellweger*, builder of the Uster evenness tester, has brought out an electronic slub catcher which made its debut at Milan. It is so new that no price was quoted at the show. Once the unit has been set to catch a certain size of slub it cannot be changed by operatives. It is a very compact little unit and attracted much attention.

Also in the Zellweger booth was the new Ustermatic warp tying machine. This, it is reported, replaces the five types previously produced by the firm. It is said to be suitable for tying any type of yarn from fine filament to really coarse stuff and the changeover from one type to another is extremely simple.

The redesigned machine appears to be more compact than before,

while they say it will tie about twice as fast as anything else now available, reaching speeds of up to 600 knots per minute. It can also be arranged to tie the double knot necessary for slippery synthetic filament yarns, without any sacrifice in machine speed.

A novel little gadget that will interest all spinners is the Preisser thread watcher that is so simple it is a wonder no one thought of it before. This is fitted to a conventional spinning frame in the position of the pigtail normally used immediately above the ring rail. In effect the watcher is a tiny microswitch operating at very low voltage. The guider attached to the switch is extremely sensitive and the ballooning action of the yarn above the ring is sufficient to hold the two arms apart so the light remains off.

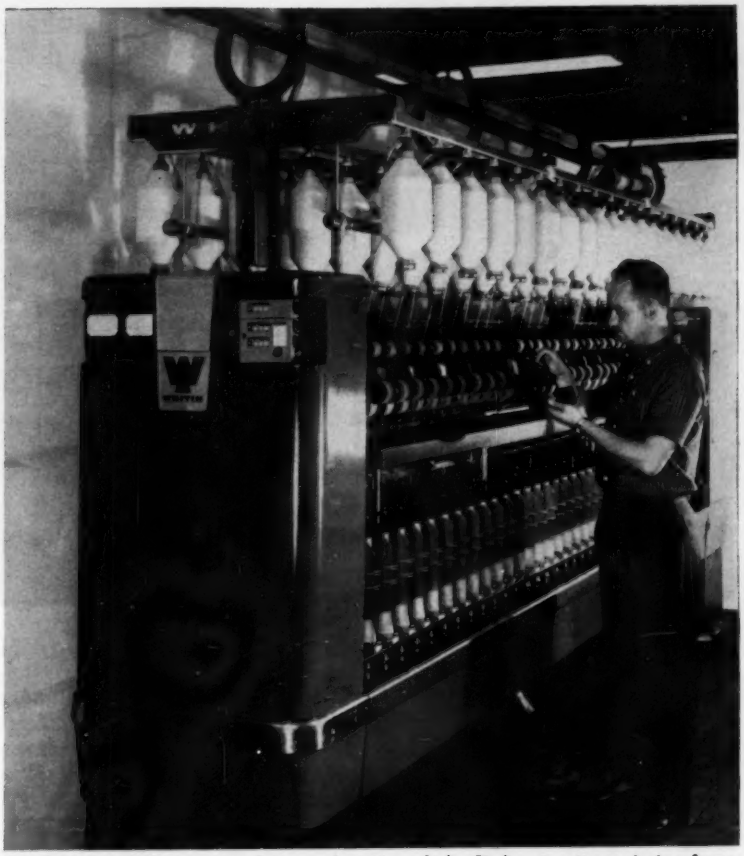
As soon as the yarn breaks the arm closes and the switch brings on the light. Operatives can see at a glance which end is down and so repair it more quickly.

The unit also has the added advantage of helping the supervisor of the spinning room. He can see at a glance which frames are spinning well and which are not. The unit, which is easy to fix on the frame and which requires only a single wire with a ground is being marketed by the Belgian makers, *Dolne & Delwaide S.p.r.l.* at under $1 per unit.

The most controversial subject among spinning machine builders seems to be the two-for-one spindle. Those that have it swear that it will replace the conventional spindle, while others who do not yet include one among their range say it is a passing fad with no future.

The firm reputed to have one of the finest spindles of this kind on show was *Volkmann & Co.*, with a big spindle that runs at speeds of up to 8,500 rpm, and a smaller one for speeds up to 11,000 rpm, the speed depending, of course, on the yarn quality being run. The spindles are suitable though, for all types of staple yarns, including rayon, cotton, wool, etc. It should be appreciated that although the spindle speeds are quoted as above, the actual twist is double this figure.

The Volkmann spindle delivers a knotless package that can be either cone, cheese, or dyeing package, and there is provision for several ratios of package traverse. Spindles can be continuously doffed as they can be stopped singly.



The Piedmont KW, American System adaptation of the Piedmont cotton spinning frame, was displayed by Whitin Machine Works. Like its predecessor, it features individually driven spindles, narrow width, and high production on large packages. It handles wool, synthetics, and blends in staple lengths from 1½" to 8¾", and is now in commercial production.

The production of this new-type spindle is reported to be so great that one German firm discarded many old conventional frames, having replaced them with less than half the spindleage of the 2-for-1. They are running the frames round the clock and obtaining more production.

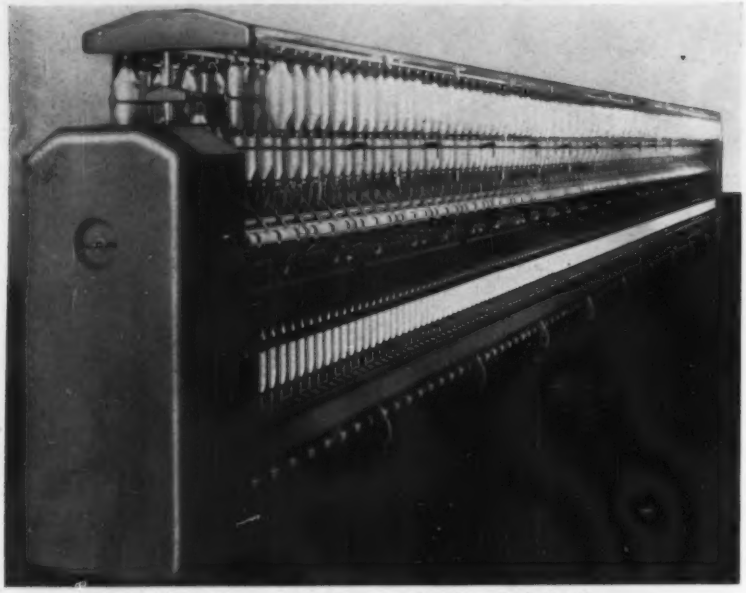
Also in the 2-for-1 race is *Barmer Maschinenfabrik A. G.* whose model DD 4 uptwister created considerable interest. This machine has a take-up rate of up to 109 yards/minute and it will give packages of a headless type of a maximum net yarn weight of something over 8 lb. This runs at 4,000 rpm (8,000 twists per minute).

Barmag, as the firm is more generally known, builds three other 2-for-1 machines—the DD 8, DD 9, and DD 10. The type 8 is for continuous filament yarns of 60 to 300 denier, giving a package of 1 kg net while running at speeds up to 6,000 rpm or 12,000 twists per minute.

The DD 9 is also for 60 to 300 denier filament yarns, but this builds a package of 2 kg, and runs at 7,000 rpm (14,000 twists/min). Yarn take-up is about 22 yards/minute faster than the model 8, being about 153 yards/min.

Finally there is the DD 10, which builds packages of 2.2 kg, but which operates at 6,000 rpm (12,000 twists/min). This gives a tapered-end headless package and the yarn take-up speed is about 131 yards/min.

Other firms showing 2-for-1 spindles included *Carl Hamel A. G.* and *Hamel GmbH*, who shared



MR.4 narrow spinning frame — Platt Bros. (Sales) Ltd.

booths and showed a unit building a 1.3-kg package at 9,000 rpm and a 600-gram package at 10,000 rpm and *Schafer Industriegesellschaft GmbH*, who featured the Duo-Double twist false-twister spindle.

This latter is unlike the other units, as it is used for making a crimp yarn and it is reported to have twice the output of any other false-twist spindle running at the same speed of 120,000 rpm. This is a principle that could well be seriously considered by other machine builders who wish to increase production without being confronted by the huge problems involved in double production rates.

Ateliers Roannais de Constructions Textiles showed a conventional false-twist machine which was running at 72,000 rpm on 150-denier and 30-denier nylon. The most interesting machine, however, was their triple-spindle sewing thread twister. On this unit there were three sets of spindles at the base of the frame, each being driven by a separate belt and the ends passing to be assembled on a take-up above.

The same firm had a tire cord winder running on a 7-lb package at 7,000 rpm.

After the success of their rayon tire cord spindle the Belgian machinists *Anciens Ateliers Victor Charpentier & Cie s.p.r.l.* have now lengthened the spindle to take the longer packages generally used for filament nylon. This new tire cord spindle runs at the same 6,000 rpm as the rayon unit.

One of the firebrands of British textile machine builders is Emile Bates of *Bates Textile Machine Co. (Leicester) Ltd.*, who is known and respected throughout the trade for his unusual, but generally exceptionally clever approach to problems. He appeared at Milan with a device for setting yarns such as tire cords and sewing threads, so simple that it is astonishing that no one has thought of it before.

The entire unit is a trough about 1 in. deep and of varying width and length. This trough has as its base an electrical resistance heater that transmits through a base plate the heat taken up by the yarn. In the trough are many ball bearings of about 1/64-in. diameter and at the ends are slits into which the yarns can be placed so that they will pass straight through the "bath."

The bath is called a "fluid metal" bath, but no air is used to agitate it as with the fluid bed which has been so much discussed of late. It seems that the bearings offer virtually no resistance to the yarn passage and yet they transfer the heat for setting at a fantastically efficient rate. Control is very accurate and already quite a number of the units have been installed in British mills. The cost of the unit is said to be very, very low.

Sotexa, who build false-twist machinery which is sold through Machines Bourgeas-Pain Ltd., have tackled the design problem in a novel way, for they are big yarn producers themselves and the frame they build has been thoroughly tested in their own production units. They have mounted the SKF false-twist spindles horizontally in the frames where they run at a speed of about 70,000 rpm.

To stop a single spindle a very clever system has been used. This involves inserting a mandrel into a hole beside the spindle. The mandrel lifts the belt from the false-twister which can then be stopped. The method of heating is relatively simple and conventional, unlike the Barmag machine which is conventional except for the heater, which is a fine tube that acts as a resistance and so heats up and provides the setting zone for the yarn. This must inevitably suffer from the condensation of compounds from the yarn being processed and eventually it will be necessary either to clean the tube drastically or replace it.

There is no doubt that the most impressive false-twisting machine at Milan was the E. P. I. of *Hobourn Aero Components Ltd.*, who have built a superb machine. This operates on the old thread-rolling principle. The twister is actually a hollow bushing which rotates at a maximum speed of about 4,200 rpm. The yarn is taken through this bushing and pulled across it at an angle so that as the bushing turns so the yarn is forced to twist. In one revolution of the bushing the yarn is twisted (theoretically at least):

$$\frac{\text{Bushing circumference}}{\text{Yarn circumference}}$$

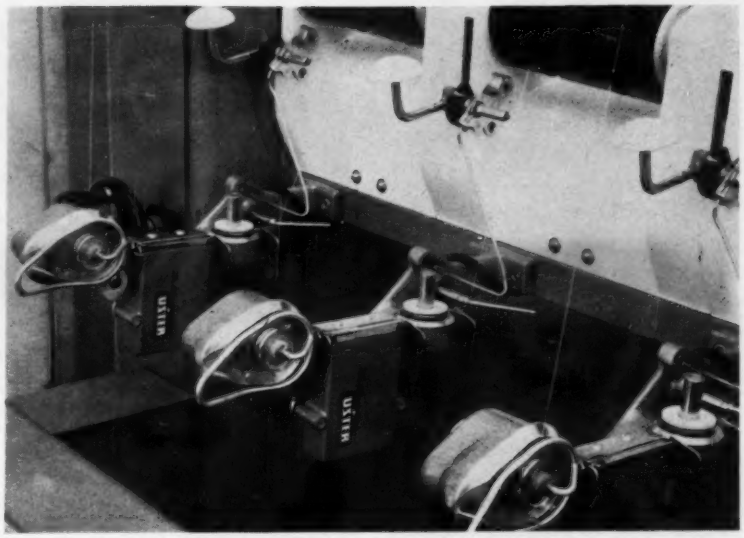
It will be appreciated at once from this concept that there is a possibility of the yarn slipping against the bushing surface as the action is not mechanically positive. This does not happen much in practice and this is well proved by the generally good uniformity of

yarn made on the very high speed machine.

Production is most satisfactory on this machine with fine denier yarns which, after false-twisting and setting, are collected on a ring package. Each head has two bushings and these produce, respectively, S and Z twist.

Tweedales & Smalley Ltd. displayed their new RFN frame which is now fitted with the Sussen individual spindle drive, developed by *Wurtt. Spindelfabrik GmbH* and which has been acclaimed by several spinning frame manufacturers.

For fancy yarn production a 40-spindle ring spinning frame with intermittent drive was shown by *Berliner Textilmaschinen GmbH.* This unit has what is termed a "multi-micro feed control," which is electromagnetically operated. The effect yarn is fed to the support yarn irregularly and so produces a yarn with considerable surface interest.



Uster electronic slub catcher — Zellweger A.G.

WOOL

On the woolen and worsted side there were several big developments. *Chr. Mann* showed, for example, a high output fine drawing frame fitted with a photoelectric sliver detector motion. This frame delivers up to about 76 yards/minute and the movement of the faller bar is about 1,800 strokes/minute. There is a doubling of two and the drawing is anything between 4.5 and 10.5 fold. The cross bobbin has a delivered weight of about 3.5 kg.

Some big new developments are reported to be in the offing with the M-3700 Pin Drafter of *The Warner & Swasey Co.*, who preferred not to show anything at this time as they were of the view that it would be better to wait until mill trials had proved successful.

The H 1 woolen ring spinning frame of *A. G. Joh. Jacob Rieter & Cie* has spindle rails of 6¼-in. pitch, and the tubes are 12¾-in., while the ring diameter is 5-in. This new machine was not on open display, but kept in a large office in the center of the firm's booth.

Ateliers H. Duesberg-Bosson S. A. who have an associate company in the U. S., have now reduced their carpet yarn spinning system down to two units. The card feeds directly to the huge spinning frame which is designed to give the sliver a draft of up to 15. This exceptional unit has been designed especially for the carpet yarn trade with a particular eye on the tufted carpet business, bearing in mind that large knotless packages are required if machine efficiencies are to be maintained or improved.

For the wool rag trade a completely new type of carbonizing plant has been invented by *A. L. E. A.* of Italy. This is a huge drum that rotates continuously, first for three turns clockwise then three turns reverse. Rags are fed in at the top of the machine and delivered at the foot.

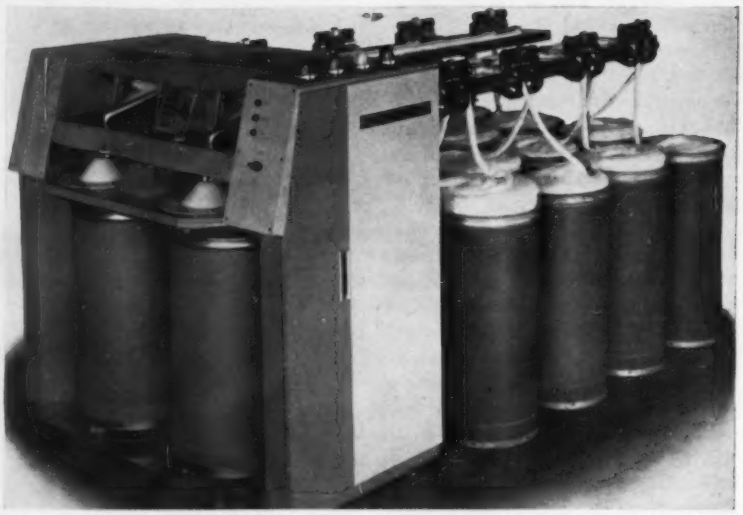
Compared with conventional batch equipment, this represents a continuous process and it saves 66% of acid normally used, 70% of the oil for heating, and cuts operatives from two to one. It needs 10% more electric power, but offset against this is the elimination of expenditure on replacements, as the graphite bowl used for acid storage is indestructible and lasts indefinitely without requiring attention.

Finally, mention should be made of the neat hand knitting yarn pack produced by *Gebruder Boehringer GmbH* which is automatically produced in a clever double fold arrangement. The yarn is wound (by weight) into two small skeins of 50 grams each. These are then wrapped together—end-to-end—into a single pack which can, if required, be split open should the customer only wish to have a small quantity. The reason for this pack is to make maximum use of shelf depth, which is usually greater than the packs generally made.

Among winding equipment perhaps the item of greatest interest was the "secret" fully automatic cone winder of *Schweiter A. G.* who had it confined to a large office in the center of their booth. This is an eight-head unit that closely resembles the Abbott, except that it is not long. The appearance is like an Abbott with the ends cut off and joined together. The argument in its favor is that it is never more than a few seconds before a yarn end is detected and repaired on the machine. This means higher efficiencies, particularly with lower quality yarns that may break frequently.

To counter this move by Schweiter, *W. Schlafhorst & Co.* also announced their automatic cone winder. This, they said, was now being stringently tested and soon it would be shown publicly, after the trials have proved its efficiency. It is further believed that *Franz Muller* is also working on an automatic winder of some kind

High-speed, constant-yarn-speed cone winder for carpet and other coarse yarns. It makes 17-lb cones at 763 ypm — Dietze & Schell.



ER drawing frame runs at 400 ft/min — Societe Alsacienne de Constructions Mecaniques.

and that it will not be long before this too is shown.

Around the booth of *Leesona Corp.* interest of course centered on the Unifil which, one Swiss loom builder thinks, may well sweep away all talk of box loading in Europe. Time and hard economics will soon show: Unifil or box loading!

There must be considerable discussion about the new winding and warping system of *Hacoba* in which a new super-size, centerless bobbin is wound up as a dye package. This is an interesting conception as the yarn is continuously passing from the inside to the outside of the package during build-up. Thus there is about 6-in. of yarn between inside and outside of the package and this is being repeated throughout the long sausage-shaped package.

After dyeing, any unevenness is immediately canceled out during weaving as this variation between inside and outside of the package may be taken into a piece of filling no less than five or more times across the piece of cloth.

A good layer-locking device ensures that the packages do not crack or break during handling. Special creels have been designed for the large-capacity packages after dyeing. The question that now remains is, who is going to provide the modified dyeing equipment for this type of package? So far the only firm that appears to have made any move in this direction is *Jagri GmbH* who have an adaptor for these packages, so that they can be dyed on conventional machinery.

The idea behind this new type of package is not completely new and a similar package has been made for some time on the Rocket winder of *D. Delerue & Cie* which has not really had the success it so obviously deserves. The packages that this and the Hacoba machines make are a good size and ideal for a certain class of processing.

Many firms have concentrated on building winding machinery with a constant yarn speed, but one of the fastest little coners on show was that of *Alucolor FMN Schuster & Co.*, whose Conorapid precision cone winder was winding at a constant spindle speed of 3-4,000 rpm. This machine is designed specifically for winding the very finest filament yarns, and fiber producers have been particularly enthusiastic about it as the tension on the yarn is cut back as the size of the package increases.

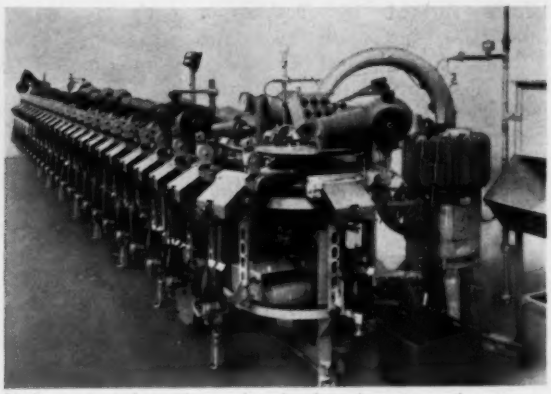
The traverse weighs only 18 grams, and it is operated by a screw traverse system which is obviously highly satisfactory. When winding say a 20-denier filament yarn, the winder starts with a tension of 2 grams, and by the time the cone is ready for doffing this has been lowered to 1.5 grams.

Processors of crimp yarns have been very pleased with the skein winding reels built by *Croon & Lucke GmbH*. The high-production, two-sided machine, in particular, is said to give one of the finest dye muffs obtainable on a skein winder. It is fitted with special metallic bars on the reels which are said to eliminate static electricity completely.

The W 400 machine is a two-sided unit and as one reel is making skeins, the other is being doffed by the operative. This is a particularly good labor-saving arrangement that gives maximum production from this very high speed machine.

Eyes were raised by quite a few visitors who saw the latest conception developed by *Fr. Mettler's Sons Ltd.'s* hank-to-can winder. Yarn is wound from skein and dropped into cans without any draft or tension at speeds of 250 up to 550 yd per minute. This is said to give a particularly full

DSB sectional warping and beaming machine — W. Schlafhorst & Co. Maschinenfabrik.



High-speed winder with traveling heads and stationary knotting — Societe Alsacienne de Constructions Mecaniques.

handling hand knitting yarn, as it is allowed to relax after skein dyeing and so recover some of its original fullness.

Constant yarn speed winding of cones is all the rage and one of the significant machines of this type was that of *Dietze & Schell*, whose heavy-duty, single-spindle machine winds at up to 763 yards/minute to give packages of 7-8 kg. This machine is being used widely in Germany for very coarse yarns and also particularly for tufting and other carpet yarns. The machines are fitted with length counters if required so that length-controlled packages are relatively easy to obtain.

Synthetic yarn producers have long been faced in the filament departments with waste yarn. *Sant' Andrea Novara* showed for the first time a special winding frame which is built to wind the yarn from these waste batches at some 927 yards/min. to give 350-gram packages of second-grade yarn. It is now planned to improve the machine and extend its capacity so that it will wind a 1-kg. package.

For winding good packages of crimp yarn another constant-yarn-speed cone winder has been built. This is the precision cross winder of *A. Ott*, which winds at 305 yards/min.

TUFTING

Cobble-Super Tufter Corp. showed the new model 126-DT dial-type tufting machine and according to Mr. Pickering, managing director of the British subsidiary of the group, he was highly satisfied with the general position his company has now secured in Europe. He feels that in Germany in particular, manufacturers realize exceedingly well just what wonderful potentialities tufting, as a process, has. Not only will it make good carpets, but there are also other potentialities, such as simulated furs or upholstery fabrics.

Radcliffe Engineering Co. showed the Bartuft machine of the type shown at Manchester last year. This interesting carpet making machine, which combines yarn into a PVC backing, is ideal for making molded forms such as used in the bottom of an automobile.

British Tufting Machinery Ltd., appeared delighted with the success of the new Princess model tufting machine which has complete dial control of both pile height and stitches per inch. Pile height can go down to ¼ in. from 15/16 in. maximum. Another feature of the machine is that it is also possible to alter the velocity of the looper without affecting the setting so that should a yarn give trouble this might well be countered by cutting it more rapidly. In the event of a stoppage the needles now always stop in the "up" position.

The firm is now building carpet printing equipment which will produce at a rate of 32 yards/min. in any number of colors. These machines are built in widths up to 15 ft.

Of possible interest to tufted carpet manufacturers is a very good four-color yarn-printing machine, built by *Josef Timmer Maschinenfabrik*. Penetration of color is good and the yarn can be used for producing very attractive effects in otherwise plain carpets.

Precision reeling device for crimped yarns—A. Ott.

NONWOVENS

Nonwoven-fabric manufacturers were able to see the Rando-Webber of *Curlator Corp.*, which was running well and producing a very good web. Also on show were the new two-sided contact gluing machine of *Elektro-Stahlbau* and the mysterious box-like device of newly formed *Bondatex Machinery Co., Ltd.*, who are reported to make web forming machines and sundry other equipment.

This last is a new company

jointly formed by Tomlinsons (Rochdale), Ltd., and Tweedales & Smalley, Ltd., but it appears that they are still formulating their general policy towards this new industry.

Neither the mysterious Bondatex box nor the Elektro-Stahlbau machine was running.

SIZING

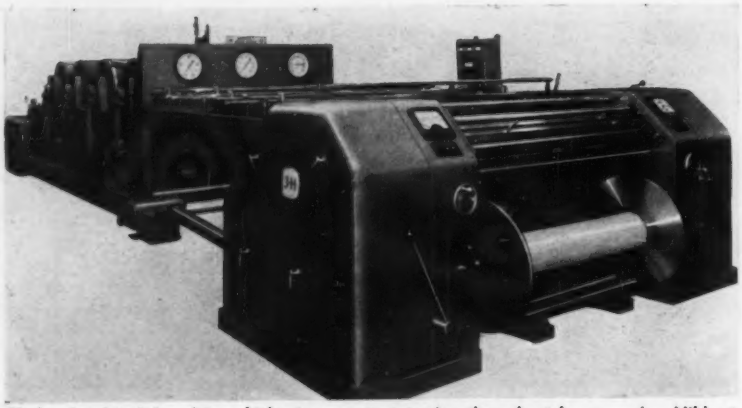
Meltable size, no water, no dryer, and complete electric control are the outstanding features of the new filament yarn sizing machine of *Ruti Machinery Works Ltd.* The big thing about this new machine is that it applies a wax to the warp which, claim the builders, is extremely easy to remove later. The entire unit is under six yards long! More practical mill experience is needed before the machine can be fully reported, but the principle of using a size that can be melted away is, to say the least, very novel.

WET PROCESSING

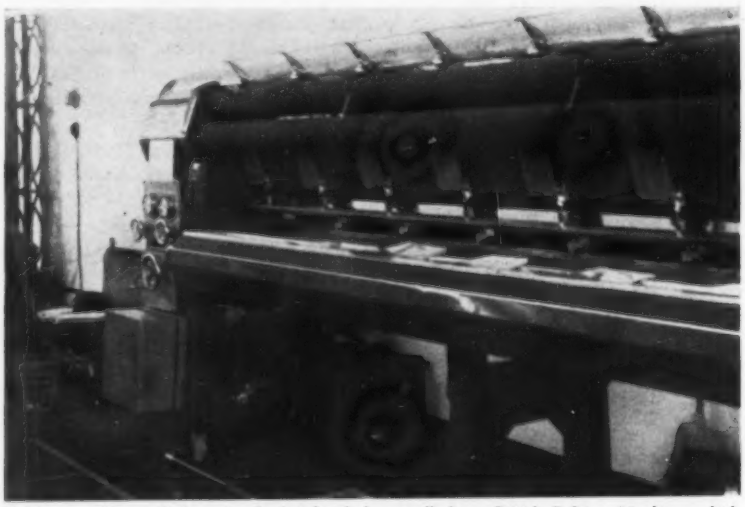
Screen printing developments were among the most interesting aspects of developments in wet processing equipment. *Zimmer's Erben K. G.* of Austria displayed a completely new type of squeegee. It is magnetically controlled and is far simpler in appearance than any previously shown. It comprises a simple steel rod, tapered at each end, which is taken across the screen by an electromagnet traversing beneath the blanket of the machine. Printing paste transmission is adjusted by selection of rod size and the magnetic force applied.

With a 24-inch screen an average of about 500 yards per hour can be printed, but this will vary according to cloth, paste, etc. The present machine will print repeats of up to 2 meters (2-18 yards).

Also from Austria came the T. K. automatic screen printer for 4 to 8 colors, built by *Reisinger Apparatebau.* This has a new type of dry adhesive which never marks off onto the cloth. The finest silks, filament nylon, polyester, or other fabrics can be printed on the frame without a back grey and without danger of the adhesive marking off.



Slasher headstock has drive which gives constant tension throughout beam — Jos. Hibbert.



Tufting machine, stitch and pile height dial-controlled — British Tufting Machinery Ltd.

The same firm has a fully automatic squeegee which lifts upwards and so permits screens to be removed very quickly. This is particularly useful if pigment dyes are being used.

A great stir was made by the equipment shown by *Artos Maschinenbau Dr. Ing. Meier-Windhorst* of Germany, who demonstrated two types of printing machines. Their screen printer is still undergoing mill tests at a plant in Switzerland, but it is very novel in that the cloth is dried after every color has been applied, so that the next screen is not printing on a wet cloth.

Representatives of the firm say they have largely overcome the problem of disturbing register between screens when drying takes place. They have used a strong rubber blanket on the face of which are positioned spring steel strips that provide the back grey and which carry the adhesive.

Their other machine is extremely interesting and was, as far as it was possible to determine, the only one of its kind made in Europe and on show at Milan. This is a roller printing machine with a difference. The color is built up in the form of the final pattern in a dry state on a roller. The complete repeat is created with specially formulated printing pastes using conventional dyestuffs, but to recipes supplied by Artos.

When the roller has been completed it is run against wet cloth and the dye is immediately trans-

Eight-color roller printing machine — Societe Alsacienne de Constructions Mecaniques.

ferred to the fabric. Up to 200 colors on a single roller have been printed with this machine and a sample of this type was on show. The machine has infinite color possibilities and it runs at about 20 yards/min. Artos is, of course, the German firm collaborating with Proctor and Schwartz.

Time is saved with roller engraving by using the photoelectric pantographs designed and built by *Officina Meccanica Olivetti*, who showed a multi-head unit that can engrave simultaneously three rollers with different patterns. The engraving is completely automated once the machine has been set up, and the key to the whole machine is its electronic control panel. In terms of positive savings it means that engravers can save both time and trained staff, eliminate mill engravings and reliefs and the long and expensive operations associated with this. To work from a new pattern is only a matter of 15 to 45 minutes, according to the intricacy of the design.

Several firms showed new developments in tenters. *Trockentechnik Kurt Bruckner K. G.* of Germany featured a very simple but rugged machine. This runs at speeds up to 128 yards per minute for long periods. It was explained that repeated lubrication of the pin/clip slides is no longer necessary as a molybdenum disulfide compound is now used and this remains effective in the hot drying chamber for periods up to six months.

Famatex GmbH showed their model PRH 30/1959 single layer tenter. This has a combined clip and pin plate. The pins are of a novel shape, being bent in the center to give a knee shape. This reduces the tendency for the cloth to be blown off inside the machine. There is also a second position for the pins so that there is even greater security of the fabric in the drying chamber. As the clips leave the chamber they drop back to the first position to facilitate removal of the cloth.

The machine will work at up to 273 yards/min, and the overfeed is cleverly controlled by a specially developed corrugated plastic feed belt that guides the fabric into position on the pins. Another point about the shouldering of the pins is that the cloth tends to be positioned at the bend in the pin and so it is held slightly above the hot pin plate, thus being protected from overheating.

The machines are built up to 6 meters (6½ yards) wide and provision for easy cleaning is made by incorporating a lifter that raises the top of the chambers so that cleaners can have very easy access to the machine. It is also possible to raise the top of any section while the machine is running, to see if the cloth is being handled correctly.

A very wide range of textile machinery, including an automatic loom with Georg Fischer battery, and running speed of 300 ppm is now being built by *Lindauer Dornier GmbH* who have a fine high-speed tenter frame. To this is fitted the Dornier filling straightener which is controlled through the electronic Orthomat scanner unit of *Dr. Ing. Heinz Mahlo* and cloth guiders from *Erhardt & Leimer o.H.G.* This unit will automatically check the position of the filling yarn in the cloth as it enters the machine, and signal the straightener which will then correct the defect before the fabric is fed to the clips or pins of the tenter frame. The whole system is extremely ingenious and very attractive.

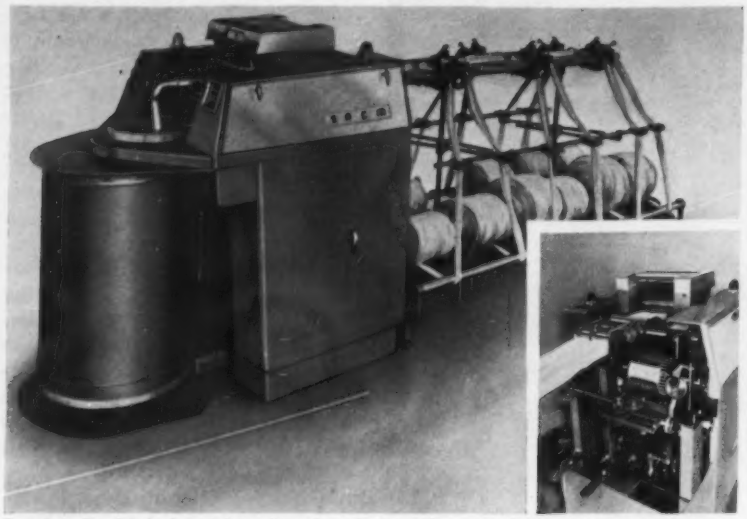
A novel approach to drying is that developed by *Fleissner & Sohn* who have a perforated drum dryer for both loose stock and fabric. The fabric is fed into the machine through a nip roller which removes most of the moisture and then it is taken up on a large perforated drum which sucks away most of the remaining water. After passing through a semicircle the cloth is air doffed onto another similar drum on which drying is completed. A similar system is used for loose stock.

Fleissner also showed their latest skein drying machine in which skeins on rods are taken through a drying chamber. The feed arrangement is extremely simple, but effective, and very high drying efficiencies are claimed for this new machine.

As mentioned before, *Jagri GmbH* have been quick to introduce specially attachments for their dyeing machines so that they can accommodate the new huge types of packages made on the Hacoba and Delerue machines.

One of the most ingenious machines in the wet processing section was shown by *Scholl A. G.* This is a fully automatic yarn package hydro-extractor. The rods carrying the packages of freshly dyed yarn are placed in position at the back of this new machine and the packages rest in a series of troughs which feed to the hydro units.

When a package is required a vibration shakes the whole row of packages so that the ones nearest



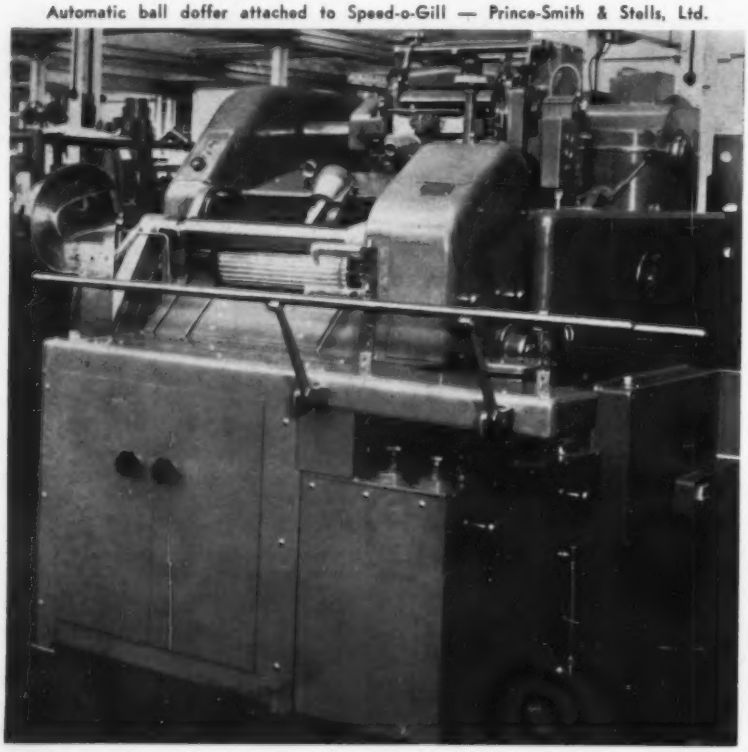
Speed drafter has hydroregulator (inset) — Societe Alsacienne de Constructions Mecaniques.

the hydros drop forward onto a spindle in the center of each machine. The machines then start up and whiz the packages for a predetermined length of time. Upon completion all the spindles turn and tip their dried packages onto a reverse series of troughs so that they can be collected again on rods as before. Should a package not drop into position in one or other of the hydros a photo cell notes it and stops the machine until this has been remedied.

Interest in fur fabrics of various kinds has prompted finishing machine builders to look for new ways of finishing these cloths. *Heinz Hergert* has a machine called the Pol-Rotor for finishing this class of goods. It processes fabric at rates from 3¼ to 32¾ yards per minute, according to the type of cloth. The system is relatively simple in conception. A blanket is used to carry the fabric through the machine in a relaxed state. This can be raised or lowered in relation to the rotor unit in the machine. This rotor unit is a roller that is spirally fluted. It rotates rapidly against the fabric and so creates a localized vacuum. This raises the nap on the fabric and, because it is spiral, tends to parallel the fibers in the pile. A high temperature atmosphere is maintained within the machine to help processing.

A neat design of hypochlorite bleaching machine has been developed by *Materiel Textile du Rhone* who call it the MTR bleaching machine. The unit is claimed to process up to 87 yards/minute by a batch system. Everything that comes into contact with the hypochlorite is made from polystyrene plastic or glass-fiber-reinforced polystyrene. Control of processing is electronic and the cloth is first impregnated through a beck and nip roll and then wound up and allowed to stand for 1½ hours in a caisson. While this is standing, the second caisson is moved into position in front of the machine and filled. This way the impregnation unit is virtually continuously in use.

Automatic ball doffer attached to Speed-o-Gill — Prince-Smith & Stells, Ltd.



KNITTING

On the knitting side there has been great progress among warp knitting machine builders. *F. N. F. Machinery Mfg. Co., Ltd.*, showed for the first time their new three-bar machine which is extremely well suited for producing marquisettes for quality curtaining.

Karl Mayer had a 12-bar warp knitting machine in their booth which was producing a marquisette with a very large repeat. This 12-bar machine was running at 400 courses/minute, while the same firm's 24-bar machine, also making a figured cloth, was working at 340 courses/minute. This firm favors the virtually traditional chain patterning mechanism.

A complete breakaway from this concept was revealed by *Liba-*

Maschinen GmbH who have fitted up a three-bar machine with a *Zangs* continuous paper Jacquard. This machine, which at present runs at 300 courses per minute is a great novelty and if it can be proved in mill conditions the potentialities for this form of patterning are obviously very great indeed.

This unit is called the Liba-Textor and it is reputed to have unlimited patterning possibilities and patterns can be changed in about 15 minutes.

Known for their continuous development of machines, *H. Stoll & Co.* launched their model UFD at Milan. This is a fully automatic, double-system power flat knitting machine with a stitch transfer mechanism, particularly suitable for knitted outerwear, trimmings, collars and cuffs, etc. Yarn feed is with eight yarn carrier slides on four double bars and 18 yarn tension brackets. There is automatic carrier change at every row.

After a relatively short time in this section of the textile trade, *Kurt Ehemann Spezialmaschinenfabrik GmbH* has established itself as a maker of very high quality finishing equipment for knitwear. The firm has been particularly successful in making machines for finishing knitwear of the new synthetics such as Orlon, Acrilan, etc.

They showed at Milan the model D 59, a new steaming and setting machine with a continuous belt feed that makes it ideal for finishing either piece goods or fully relaxed tubular yardage material. The machine makes its own steam supply and there is the usual Ehemann steam extraction system which draws the steam through the fabric being finished.

COMMENTS ON THE SHOW

Milan was a wonderful show and probably the biggest collection of textile machinery ever to be assembled in a single exhibition. Over 600 exhibitors came to show their products and it was obvious from the selection that the textile industry is far from being as sick as it often claims. There is a truly wonderful inventiveness among textile machinery manufacturers and this was amply proved by the equipment at Milan.

Although there was the great interest in developments in filling replenishment systems for automatic looms, in all other sections there were equally interesting new ideas to be seen and evaluated.

No one expects very many orders to be placed for equipment at a show of this kind, which really serves to bring together machine builders from various sectors and so assist potential buyers who wish to compare various machines. That orders will be placed no one has the slightest doubt, but generally speaking most machine builders received sufficient in the way of orders to cover the expense of showing and it was generally said that while this light ordering had taken place, there were still very many serious inquiries yet to be dealt with, many of which would probably result in firm orders.

Recent developments

(from page 77)

and woven fabrics, particularly for raised loop knitted fabrics where fine degree of control is required.

Carpets Directly from Sliver. Scottish firm reports development of a new type of knitted carpeting prepared from top with sprayed latex backing. Suggest variations may be made by using unspun nylon with possible applications in dress goods as well as in carpeting.

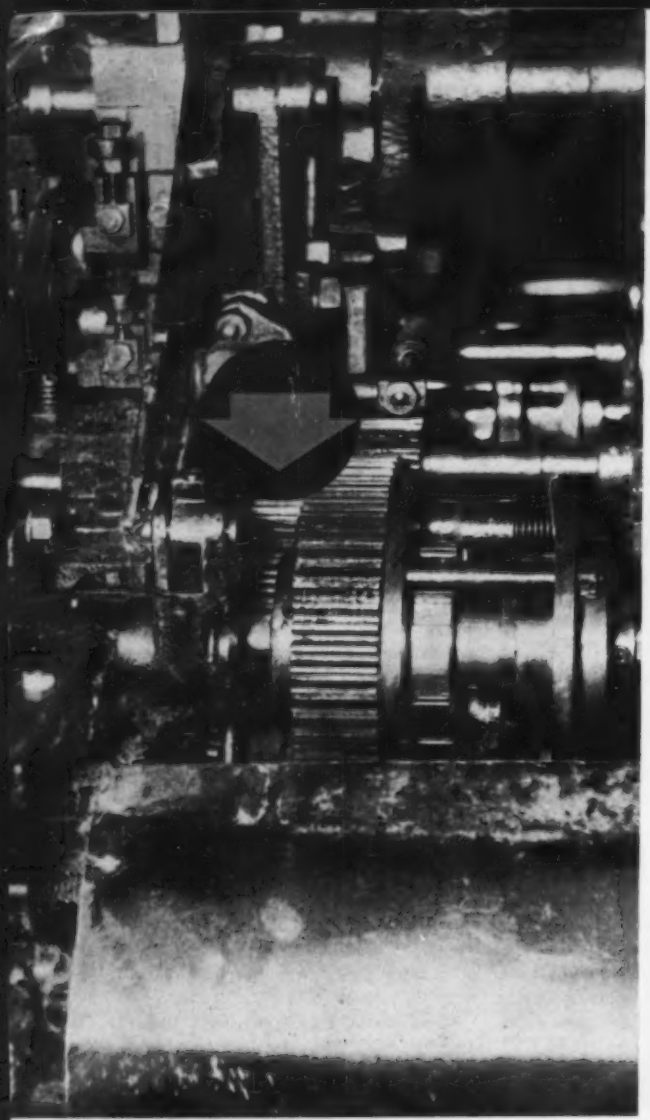
Low-Cost Drip-Dry Process for Wool. New process demonstrated by the Australian Commonwealth Scientific and Industrial Research Organization is said to make wool fabrics washable and suitable for making "drip-dry" garments. Demonstration included shirts and blouses that had been subjected to repeated wearings and launderings without ironing. Early reports indicate that the finish involved a treatment to eliminate felting shrinkage and setting with a reducing agent such as sodium bisulfate. Application cost is estimated to be about 18¢ per yard of 54" wide fabric.

Disperse Dyes for Nylon. New I. C. I. "Procinyl" dyes are claimed to have good leveling properties on nylon, compatible in admixtures, and afford good penetration. The dyes are applied initially under slightly acid conditions, with dyeing completed by an alkaline fixation stage, certain reactive groups combining with the amino or amide groups of the nylon fiber to yield high wet fastness properties. Initial color range includes yellow, orange, scarlet and blue, permitting a broad scope of shades.

Applying Aluminum Foil to Fabrics. The British Cotton Industry Research Association has announced the development of a new method of applying aluminum foil to permeable textile materials so that they permit air passage while still retaining heat-reflecting properties. The process is expected to be available for commercial use at a later date.

One-Roller Polychrome Printing. French inventor has demonstrated a new textile printing process which does not require engraving. Various types of dyes are prepared with special thickeners put under pressure and atomized on a heated metal strip to form thin sheets of plasticized color. Sheets are cut into disks pierced in the center or used as laminates and assembled on a support according to the design to be reproduced. After the fabric is printed, color is liberated with a steam jet or water spray.

Knitted Nylon Packing. The Packed Column Corp. of New York City is making a column packing material of knitted nylon monofilaments. This material is said to be useful in cases where contact of the process steam with metal must be avoided because of corrosion problems, particularly where the cost of corrosion resistant metals is prohibitive.



Taking lost motion out of carrier gear (arrow) improved quality of work.

Knurled lap winder core surfaces replaced familiar denim covers.

Simple changes improved combing

Staff prepared Exclusive

ONE southern combed yarn mill made two simple comber changes that have helped product quality:

1. Carrier Change Gears. Originally, the combers were supplied with 28-tooth spur carrier change gears that began to introduce bad piecings into the work after wear really set in.

To correct this, the firm adopted a 29-tooth gear with teeth cut deeper than the originals and into a wider blank. Newer model combers utilize helical gears to effect the same quality improvement.

2. Lap Winder Cores. The former denim coverings gave good friction and provided for even lap starts. But the fabric disintegrated slowly with use and sometimes allowed bits of the worn fabric to enter the stock in process.

The correction amounted to the purchase and use of a simple knurling tool. The denim covers were removed, the cores chucked in a lathe, and then knurled to the degree necessary for correct starting friction. With the rough surface sticking to the lap readily, and without a fabric to disintegrate, that problem ceased to exist.

by B. R. Andrews, Jr.
Andrews & Goodrich
Division Midland-Ross Corp.

Exclusive

Whether you are contemplating installing air drying equipment or are using machines that were built several years ago, consideration of these points should help you to

get better air drying and curing

THE designation "air dryer," as used in textile finishing plants, has come to mean a production unit which utilizes air or a mixture of air and water vapor as a means of conveying heat from a constantly renewed source to the water in a web of cloth for the purpose of evaporating that water.

This so-called gaseous drying medium is not only available without cost, but can be heated to a predetermined controlled temperature either with steam, gas, oil, or electricity. It can be applied directly and uniformly to the fabric at controlled volume; or, it can be used indirectly in radiant panels at temperatures up to 1000 F, or more.

Air dryers are practical and simple to operate. Their design has been under constant and rapid development during recent years to meet the requirements of new and different fibers, dyes, and finishing materials. Now that gas is available for most finishing plants and the equipment for burning it with low turndown and wide range has been perfected, the possibilities of greater usefulness of air dryers are rapidly being taken advantage of by most progressive finishing plants.

Among these new possibilities, perhaps one that offers the greatest advantage for the finisher is the unit where the goods are exposed for a relatively long time to radiant heat from metal surfaces heated with air whose temperature can be maintained at any predetermined value. This radiant preset not only makes possible less migration and more level dyeing than could be obtained by volume regulation alone, but accomplishes it in a unit that is simple to operate and has no excessively high temperature source of radiant heat.

The air dryer is a versatile piece of finishing equipment that can add much to the value of the goods while removing the moisture left in them after extraction. Its temperature and driving rate are easily adjusted and can be accurately maintained. Properly designed and operated, the same unit can be used for practically all goods with their wide variety of fabrics and finishes. Air dryers can be designed at high thermal efficiencies, at high speeds, with low maintenance cost. They are ideally suited to direct firing with gas as well as having the heat supplied by steam radiation.

Conveying. Air dryers for finishing plants are used primarily for goods being conveyed through them in three different ways, namely:

1. In tenter chains
2. Over spaced rolls
3. Looped on poles

Inasmuch as fast drying permits the use of relatively high temperatures, the tenter which can use the most active air circulation and dry in the shortest time can be operated at the highest temperatures.

Where goods pass either vertically or horizontally over banks of rolls, the drying rate must be somewhat less than in the tenter dryer to avoid causing wrinkles in the fabric from a too active air blast. Therefore, the time in the dryer will be longer and the temperature must be less.

In a loop dryer no impact of drying medium against the goods is possible. Consequently, the drying time is long and the temperature must be kept relatively lower for equal quality in the dried fabric.

Dryer Requirements. Goods are usually dried from two to five times during finishing and at least twice in an air dryer. These dryings occur at a point in the overall processing where they can enhance the quality that adds to the value of the fabric. To do this, the dryer must be properly designed and operated to meet the following requirements:

1. It should dry a web of cloth uniformly from edge to edge, warpwise, and back-to-face. When drying after the dye pad the dryer should leave the dye uniformly distributed to insure drying.

2. It should destroy none of the inherent value characteristics of the goods, but should tend to improve the qualities that add to their value, e.g., tensile strength, wear resistance, crease resistance, hand, drape, and good color value.

3. It should have a good thermal and mechanical efficiency, low maintenance cost, keep itself reasonably free from accumulation of lint, and have all parts and ducts readily accessible for cleaning.

4. It should have its air delivery system designed to handle an average piece of goods and be adjustable for lighter or heavier as well, and for different dyes.

Air Delivery Systems. When actual design is undertaken, there are many variables that enter into

Figure 1. Per cent water entering versus capacity.

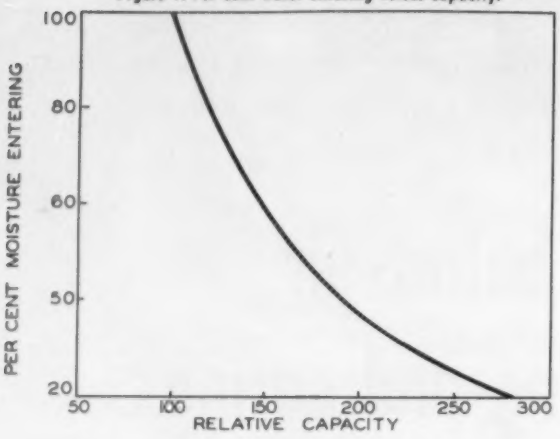
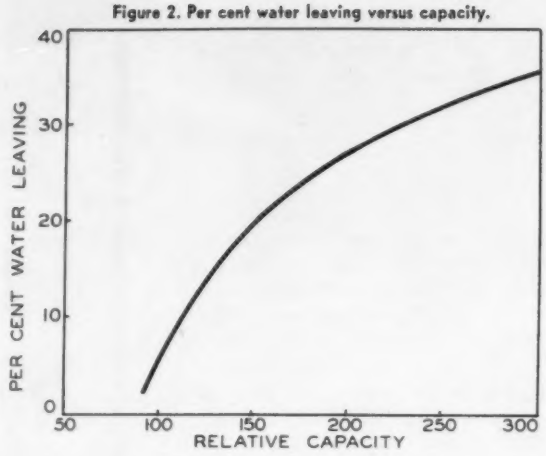


Figure 2. Per cent water leaving versus capacity.



the calculations when a mixture of air and water vapor projected against the web is the means of transferring the required number of Btu to the moisture in the fabric for its vaporization, e.g., air velocity and quantity, temperature and absolute humidity, spacing, location, size and type of orifice.

Where both sides of the fabric are exposed alike, as they are in the tenter and the roll dryer, the means of air application that meets all of the foregoing requirements best is a system of ducts with cross nozzles whose shape gives maximum capacity when they are four to eight inches from the web, and absolutely uniform drying from edge to edge. Then, using this design, it is necessary to know the best combination of spacing, size orifice, and velocity that gives maximum drying per air horsepower and unit area of goods exposed for different temperatures and types of goods.

This needs to be determined in the laboratory and checked against actual field results in production units. This determination requires many hundreds of laboratory test runs that take from two to four hours each. But no dryer can be designed to give maximum efficiency and performance without the data obtained from such tests. It is interesting to note that they disprove many popular ideas of relationship between velocity and rate of drying.

Size and Holding Capacity. Having determined the correct air delivery system for all types of goods and set of conditions, the size and holding capacity for a certain production rate can be calculated from air horsepower and allowable temperature.

The permissible air horsepower can only be correctly determined from tests run on actual production units. It is affected by the type of goods, their tendency to wrinkle, and the length of unsupported spans in the dryer. (Air horsepower is the power required to move the air from the fan, through the ducts and out the nozzles. It is not the horsepower of the motor driving the fans.)

In order to obtain the highest possible thermal efficiency and have the unit as small as possible for its production requirement, it should be designed to operate at the highest temperature consistent with delivering first quality goods. Fast drying, i.e., using the most air horsepower permissible through the most efficient air delivery system, allows the use of nozzle temperatures far in excess of those that can be used where the drying rate is relatively slow. Unfortunately, there is no formula that applies here, and experience with properly designed units, plus laboratory tests are the only reliable guides. In actual practice, temperatures used are between 250 F for worsteds to 450 F for cottons and some synthetics.

To sum up—the design of an efficient, completely versatile air dryer that will add to the value of the fabric being dried should be based on the following factors:

1. An air delivery system that has the most efficient combination of nozzle spacing, orifice, and velocity.

2. A fan and heating arrangement that uses the maximum air horsepower permitted by the factors governing it.

3. A means of heating and maintaining the air stream at the highest temperature permitted by factors 1 and 2.

These factors, each depending on the others, once determined from laboratory and field tests provide the means of good air dryer design.

The capacity or production of a dryer so designed can be calculated for any particular fabric from its dry rating and the type of fiber in its construction.

Much of a dryer's value to a finishing plant still depends on its mechanical design. In order to maintain maximum production at all times, the dryer must keep itself reasonably free from accumulation of lint and have lint screens that can be cleaned without shutdown. All parts should be easily accessible for periodic cleaning. Provision for good housekeeping is important, which means being able to "get into" a dryer.

When it comes to mechanical maintenance, a few large-sized fans driven by standard motors will require less attention and cause less shutdowns than many small fans with special motors. Steam heating coils must be of a type that are easily cleaned. Gas

Figure 3. Temperature versus capacity.

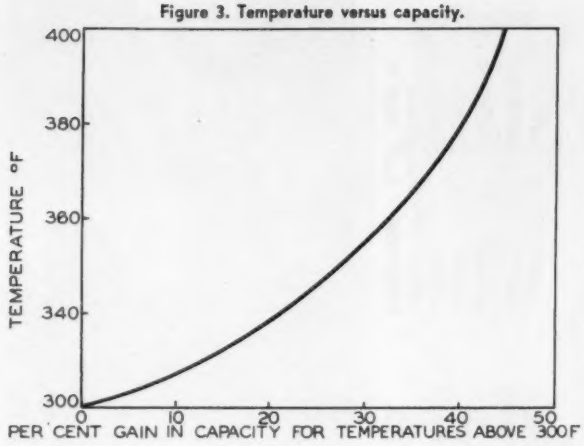
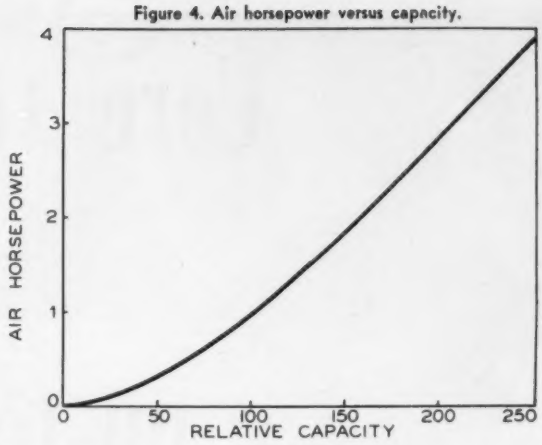


Figure 4. Air horsepower versus capacity.



burners should be of a type permitting wide range and low turndown.

Curing. Because both air dryers and today's curing units involve heat transfer to a web by means of a gaseous medium, a portion of this article is devoted to curing units.

The curing unit has come to mean that piece of equipment which takes in cloth that has been impregnated with a finishing material and properly dried so that such finishing materials are uniformly disposed on and in the fabric. It is intended to be able to heat the fabric and the materials it contains so that polymerization is completed and time is allowed for any "melt and flow" which is a part of the process. This involves heating and holding while hot. In other words, it is overdrying way beyond the most careless operation of an air dryer.

Except for a few of the synthetic fibers, practically all goods are degraded by overdrying and overheating. Also, the amount of degrading bears a definite relationship to the temperature to which the goods are heated and the length of the period they remain heated. Therefore, the greatest fiber strength will be retained if the cloth is heated to the required temperature through and through in the shortest possible time and held at that temperature long enough to complete the process without further rise in temperature. This requires a section in which the goods pass between ducts and nozzles like those used for drying and then pass through a holding section where the temperature of the fabric is maintained, but not raised.

This sequence assures high resin retention with a short curing period and without overheating the surface fibers. The advantage of this type of cure is gained for all weights and thicknesses of goods, but is most noticeable on the heavier and thicker fabrics where hand is more important. A curer that applies heated air parallel to the surface of the resin treated cloth at a uniform rate throughout its length should deliver the air at a higher temperature where the web enters and at a gradually reduced temperature toward the delivery end.

American engineered dryers have always led in production, practicability, and performance for our textile plants. In my opinion there is no doubt but that you can count on this to continue in the years ahead.

Improving Efficiency. The foregoing has been devoted to the original design of an air dryer and is intended to be a guide to those plants contemplating the installation of a unit to meet their particular requirements. But there are many such dryers that were installed some time ago that fitted the requirements of that time and period which now need rebuilding and rearranging to fit today's fibers, fabrics, and increased rates of production.

In order to formulate a plan of procedure, it is necessary to compare present performance with gains that are possible from increased temperature, air horsepower, better extraction, and additional drying at the delivery end. Therefore, the accompanying figures are included to show capacity relative to:

1. Water in per cent of dry weight entering the dryer.
2. Water in per cent of weight leaving the dryer.
3. Temperature of the air delivered to the cloth.
4. Air horsepower.

These curves are all based on having an air delivery system where combination of shape, nozzle spacing, orifice, and velocity has been correctly determined for a particular fabric, absolute humidity, and air horsepower. Therefore, they are only approximately correct for dryers whose design does not meet the requirements set forth in earlier parts of this article, but they do provide a good indication of what can be done to get more out of an old dryer, whether or not it was built right originally.

In conclusion, an air dryer is a piece of equipment with a long life expectancy. The difference in earning capacity between a good dryer and one with lower first cost, but not as good design, adds up to a considerable sum over the years. The better dryer will pay back its extra cost many times during its life.

Core testing wool up-to-date

The new look in wool core testing features small coring tubes which supply representative samples, easy to handle, economical to transport, and readily tested

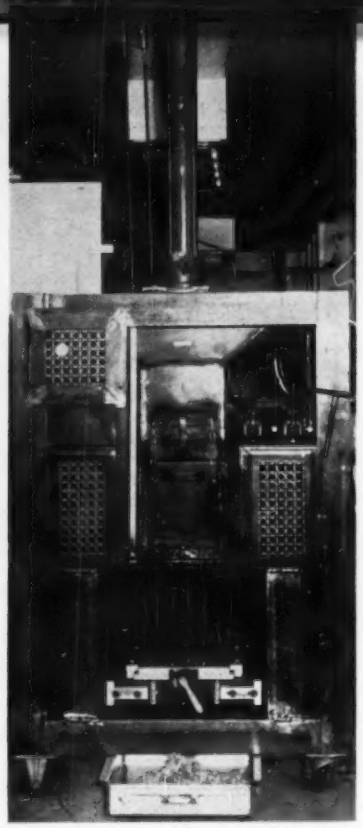


Fig. 1. Hydraulic laboratory subsampler.

by Henry R. Keller*
U. S. Department of Agriculture
Exclusive

CORE TESTING to determine the clean wool fiber present in grease wool has been used successfully for nearly 20 years. The Bureau of Customs conducted a research program from 1937 to 1941 that resulted in the development of the core-boring tool for sampling raw wool. This initial research work was done on imported wools for duty purposes.

In 1943, 1944, and 1945 the United States Department of Agriculture intensively studied this core test method in application to domestic bagged wools. It proved to be the most accurate test method devised to determine the clean wool fiber present in raw wool. As a result this method was adopted officially in 1946 for use in connection with the Government's wool price support program of that year.

First Method Had Disadvantages. The core testing method on domestic wools first employed a 3" diameter tube that was electrically driven. This required a powerful, heavy electric drill motor to rotate and drive the tube. As a result the process was difficult physically and the samples collected, in some cases, weighed 150 pounds or more for one lot. These large samples not only were very expensive to ship to the laboratory, but their bulk presented technical difficulties in blending and subsampling in the laboratory.

In 1948 the Department of Agriculture adopted a coring tube having a cutting blade 1¼" in diameter. This smaller tube proved to be superior in accuracy to the larger 3" tube since some of the difficulties associated with handling the large samples were minimized. Essentially, the 1¼" tube withdrew a sample about 1/6 the size of that obtained by the 3" tube.

During the development of the 1¼" tube intermediate tube sizes were tested such as those having cutting edges of 1¾", 2", and 2½". However, on account of the handling ease, smaller size of sample, and greater accuracy, the 1¼" tube was adopted and is still in use by the Department.

Some Problems Remained. The development of the 1¼" coring tube did not solve all testing problems. The sample obtained through the use of the 1¼" tube was still a sizable quantity of wool to be handled in a laboratory, and while blending and subsampling difficulties were greatly reduced, they were still present.

Blending was accomplished by passing the entire sample through a duster, then working by hand for further homogenization. From the sample thus blended subsamples were then drawn by hand. This technique required time-consuming hand work and possibly was subject to human bias. Consequently, studies were made of the possibilities of subsampling by

*Mr. Keller is a wool marketing specialist with the Agricultural Marketing Service, Livestock Division Wool Laboratory, Standardization Branch, Denver, Colo.

Fig. 2. Compressing core before subsampling.

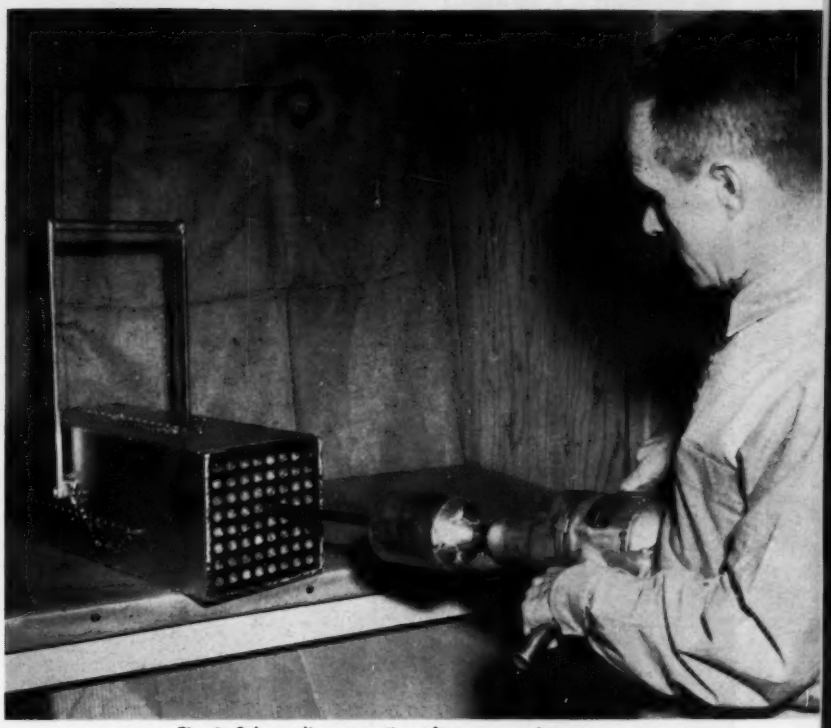


Fig. 3. Subsampling operation after compression.

mechanical means.

About this time (1950), experiments were under way to reduce still further the size of tube necessary to draw core samples. It was found that samples could be taken by direct pressure, manually, without the aid of an electric motor or rotary action, provided a properly designed tube with razor sharp cutting edge was used. The most efficient tube for this work appeared to be that with a ½" inside diameter, and equipped with a ⅜" cutting edge. (This assembly customarily is referred to as the ⅜" tube.) The size of the cutting edge was found to be a factor in this method of coring, as the difficulties mounted with increasing tube size.

Through this study of the extraction of core samples by manual pressure and the use of a small-diameter tube it was concluded:

1. That pressure core-sampling of wool was a practical physical process.

2. That samples obtained by pressure coring were light in weight, economical to ship, and easy to test.

3. That determinations of clean wool fiber present from the ⅜" pressure cores had acceptable accuracy.

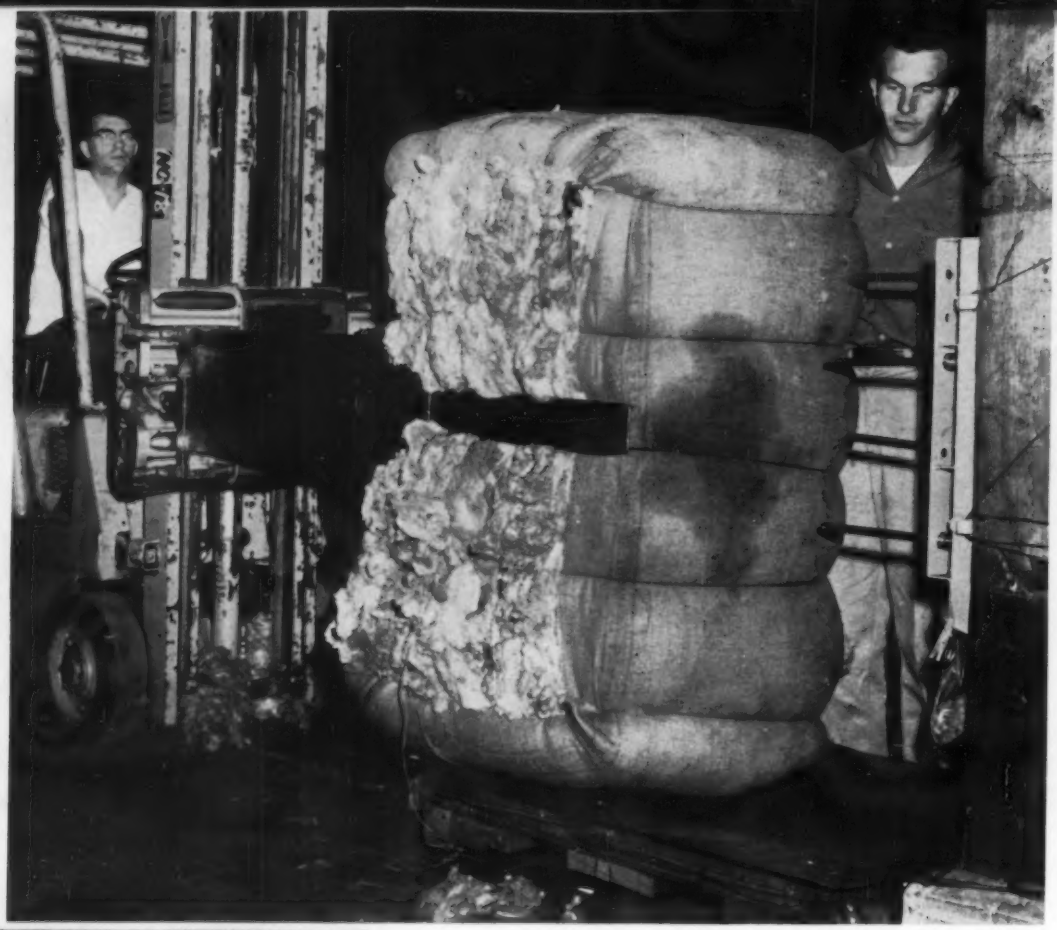
These conclusions could be applied to baled wools and well-packed bagged wools; however, sampling difficulties were found to increase as wools were more loosely packed.

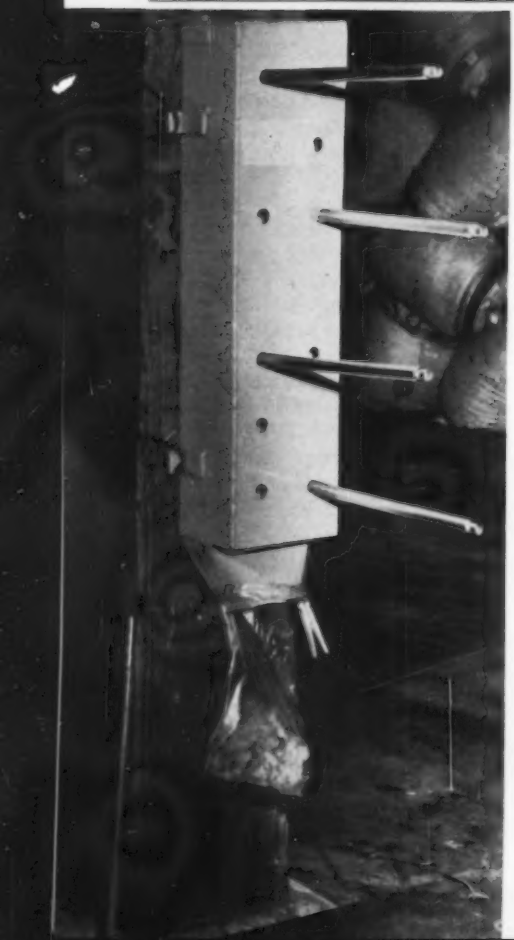
Subsampling Machine. To make the laboratory testing of the larger core samples easier, studies were made by the Department in subsampling the portions obtained with the 1¼" tube. Of course it was necessary to compress this large sample. Compression of the 1¼" sample to a practical density and the simultaneous extraction of numerous small cores for subsampling were necessary.

To this end a subsampling machine (see *Figure 1*) having a compression chamber and a battery of ⅜" tubes was constructed. This machine made it possible to compress the wool into a small volume and to hydraulically force twenty-five of the small tubes into the sample at one time. The twenty-five cores thus taken made a subsample, and several of these were usually drawn from each lot for comparison and checking purposes.

An adaptation of this subsampling machine was developed for use in field operations. This adaptation consists of a metal box *(Figure 2)* in which a 3", 2", or 1¼" core sample may be compressed with a large jack and from which one or more subsamples can be drawn with a single ⅜" tube driven by a drill motor (see *Figures 2* and *3*). This operation was keyed to objective subsampling and aimed at reducing sample transportation and processing costs.

In a more recent development direct application of the pressure sampling principle has been made in the coring of graded and baled wools at assembly points. This has been accomplished by mounting a number of ⅜" tubes onto a receiving chamber *(Figure 4)* and attaching the entire apparatus to a post or wall in the wool warehouse. *(Continued next page)*





LEFT: Fig. 4. ⅜" pressure core tubes and sample collection box.

ABOVE: Fig. 5. In this sampling operation, the lift truck pushes a bale of wool against the multiple coring apparatus (Fig. 4 is close-up view of it), punching out three to five of the ⅜" core samples.

In most warehouses bales are handled with fork lifts. In the sampling operation the lift truck pushes a bale against the multiple-tube coring apparatus, punching out three to five of the ⅜" core samples (see *Figures* 4 and 5). In this type of sampling, further subsampling is unnecessary and the entire sample can be tested for clean wool fiber present.

Small cores drawn from graded or classed wools also provide a thoroughly homogenized sample that may be tested after scouring for average fiber diameter as an indication of grade. The "new look" in core testing on domestic wools is definitely that of small (⅜" and ½") coring tubes. These tubes, either manually operated or electrically driven, produce samples that are:

1. Representative of a lot
2. Easy to handle
3. Economical to transport and process
4. Readily tested for clean wool fiber present and for fiber fineness and variability information.

As the use of the smaller tubes becomes more and more widespread it is entirely possible that in years to come they will entirely replace the larger diameter coring devices.

Readers who wish further information will be interested in "A Symposium on Core Testing Wool," which appeared in TEXTILE INDUSTRIES for January, 1950, pages 77-92.—*The Editors.*

This 14-point maintenance program can add years to the life of a spindle

Use pistol brush inside bolsters to clean step and roller bearings.

14 steps to longer spindle life

by B. F. Davis
SKF Industries

Exclusive

A LARGE cotton mill, with apparently a good maintenance staff, recently complained that their roller bearing spindles, after twelve to fifteen years of service, were giving trouble. They knew of several other mills where the same type and make of spindles were giving good service after twenty-five years under similar conditions. Now they wanted to know what was wrong with the spindles in their mill.

A service engineer from the firm making their roller bearing bolster investigated. He found that oil had been added to the spindles at fairly regular periods and, occasionally, some of the old oil had been pumped out. The bolsters, however, had never been removed from the base. Lint had been allowed to gather, and the base, bolster, and that portion of the blade within the bolster were covered with sludge and lint.

A good cleaning of all parts would put the spindles back in good running condition, but the bases were somewhat worn and the life of the spindle had been shortened. A cleaning of *all* parts every few years would have been simple and inexpensive. The frame would be out of service only a few hours and proper cleaning would have insured a long life for the spindles.

What Is Maintenance? The word "maintenance" has different meanings to different mills. To some it means "maintain in *running* condition," while in others it means "maintain in *good* condition."

Some people keep their automobiles in *running* condition by adding gas and oil when necessary and not bothering about any additional maintenance until trouble develops. Other people keep their automobiles in *good* condition by not only adding gas and oil when needed and cleaning the visible parts of the car, but also flushing out the radiator occasionally, changing the spark plugs from time to time, etc.

Now everyone will agree that the car kept in *good* condition will give better service for a longer period than the car that has been kept only in *running* condition. And the same applies to spindles in a textile mill.

Recommended Spindle-Cleaning Procedure. With several million roller bearing spindles, produced by several spindle makers, in operation in American cotton mills, it might be well to repeat, step by step, the recommended procedure for cleaning these spindles. It is only required every 10,000 to 15,000 running hours and insures a much longer spindle life.

1. Blow off frames—particularly around doffer guard latches and top of bases.
2. Take bobbins off spindles and place on creel boards.
3. Remove all yarn accumulations from spindle blades.
4. Remove spindle blades and consecutively place them in space behind clearer boards.
5. Remove bolsters and wash them in clean spindle oil—use a clean pistol brush inside the bolsters to thoroughly wash step bearing and roller bearing.
6. Wipe off and examine all parts of bolster, then mount upside down on spindle blade, making

certain no lint or fly gets into the bolster.

7. Take another pistol brush and remove all lint packed around neck of base and doffer guard.

8. Remove old oil from bases—preferably by means of a suction pump. For particularly dirty oil, flush bases with kerosene and remove with pump.

9. Mount bolsters in base, making certain they are mounted in correct position.

10. Refill bolsters and bases (check again after 24 to 48 hours to see that oilers have not missed filling any bolsters).

11. Remove all lint and waste from bore of whorl and examine the points of spindle blades—wear of step points indicates excessive vibration of bobbins on spindle blades.

12. Examine whorls for plumbing hammer marks (generally whorls hit with plumbing tools are unbalanced and these whorls should be replaced) and check for concentricity of whorl on spindle blade. In addition, check condition of acorn and top of blade; poorly fitting bobbins cause wear at this location.

13. Wipe all lint from lower section of spindle blade and place clean blade in bolster.

14. When replacing tapes on the whorls, particular attention should be given to see that the tapes are not excessively tight. Spindles should only have the correct tension as given by the tension pulley weight and not that of an incorrectly stretched tape.

This step-by-step procedure actually takes only a comparatively short time. If repeated at every other lubrication, it will add years to the life of the spindle.

Routine Maintenance. At those lubrication periods when not thoroughly cleaning the spindles as described above, the following short steps should be taken to insure a *good* maintenance job.

1. Blow off frames.
2. Remove thread from traveler and backwind yarn from bobbin, laying spindle with bobbin on frame under drafting roll without breaking yarn, if possible.
3. Clean yarn off around base.
4. Oil bolsters.
5. Remove lint from base of whorl and blade.
6. Check tapes.

The base of the spindle can remain fastened to the spindle rail while the spindle is being cleaned and oiled. This entire maintenance procedure can be done by mill personnel. If there is any question about spindle maintenance that has not been answered here, contact the spindle manufacturer.

A *good* product deserves *good* maintenance. The roller bearing spindle is designed to give many years of satisfactory service.

Why not give the roller bearing spindle a chance to show a really long life?

Executive views

(from page 81)

of handing out cash grants to foreign countries just for the fun of it, why shouldn't we help them in a practical way by buying their goods, while at the same time we help ourselves by saving some money?

In all of this welter of boondoggling and trying to look after this, that, or the other industry by buying something at an exorbitant price, one exception seems to be the textile industry, which is being gradually thrown to the wolves by rising labor costs, government subsidy of foreign cotton sales at lower prices, and inadequate tariff protection. The members of the textile industry pay their share of the tax for these foreign aid boondoggles, but the money distributed abroad does not come back to this country to buy textile products. The foreigners quite naturally buy their textiles where they can get them the cheapest, and spend their dollars for things not readily obtainable elsewhere.

Furthermore, since practically every industrialized or partially industrialized country has a textile industry of its own which is hungry to do an export business, most foreigners are anxious to create dollar balances in the United States by the sale of their textiles here. And in order to inculcate the friendliest sort of feeling on the part of these foreigners we are not supposed to invoke a protective tariff to ward off a flood of cheap foreign textiles.

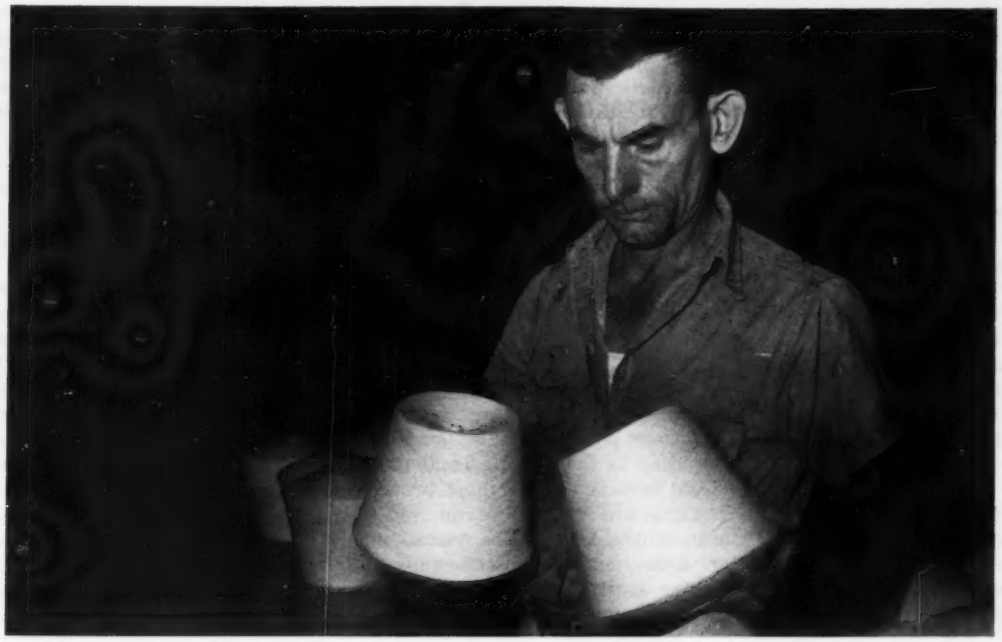
THE "KEPT ECONOMISTS" of the labor rackets are constantly telling us that wage increases have nothing whatever to do with inflation, but none of these alleged economic wizards has been able to show how an American mill paying 33 cents a pound for cotton and around $1.50 an hour for wages can compete with a Japanese mill buying our own cotton for 27 cents a pound and turning it into cloth with labor getting 15 cents an hour. Not even a labor union economist can figure that problem out.

A great many persons in our Congress must regard the textile industry as expendable in the great cause of winning friends from abroad by letting them wreck one of our basic industries. Last year a member of the Canadian Parliament publicly stated that as far as he was concerned, the textile industry was expendable, and a large segment of it is being liquidated this year.

We continue to liquidate our mills in this country so that while other industries expand, the textile industry shrinks, although the population is increasing and the demands for textiles should be constantly greater.

The flood of foreign goods is not only injurious from its very weight, but disastrous from the standpoint of the price structure. When merchants can buy foreign made goods at 25 to 50 per cent less than American materials, there is terrific pressure on prices even when demand is reasonably good and by every rational rule of the market prices should improve.

The textile industry seems always to be the victim one way or another in every extensive boondoggery, and seldom the beneficiary.



Grading spun and filament yarns

by Efraim Z. Cohen
Textile Technologist

Exclusive

MODERN conceptions of manufacturing demand a more positive means of classifying yarn quality than has hitherto been the general practice. Yarns are perhaps more liable to inhere variations of appreciable size than are the majority of other commercial goods.

The problems related to synthetic or man-made yarns differ from those related to natural-fiber yarns. To go a step further, there are actually three broad classes of yarn in the market (pure silk yarn is omitted):

1. Yarns made from natural fibers.

2. Man-made-filament yarns.

3. Yarns made from synthetic staples, including various blends.

Before the yarn is packed into boxes to be shipped to the customer, it should be given a critical visual and scientific examination regardless of the type and quantity of the yarn and package.

The individual fibers which compose a yarn are liable to vary considerably in fineness, and there is a marked difference in fiber length among various qualities of a material. These features influence resultant regularity and strength and should be considered in estimating the quality of any particular yarn.

Statistical methods form a reliable means from which a classification can be made. But it should be remembered that there are certain yarn characteristics which statistical data do not reveal, and these must be left to human skill.

The most obvious of these are: (a) appearance; (b) cleanliness; (c) luster; (d) visual uniformity, and (e) smoothness. The final general appearance of the yarn package, its regularity as well as neatness, should also be checked.

Each yarn manufacturer adopts his own system for grading and classifying as accurately as possible his various types of yarn. This leads the customer to expect deliveries of uniform quality, and as an added consequence it reduces the number of yarn complaints appreciably.

Staple Yarns. Fortunately, the

amount of down-graded yarn made under this classification can be low, providing that a well organized yarn quality control system is in practice. In such circumstances, the only poor yarn and waste that should occur results from technical failures or carelessness of the operatives.

Here, quality control should begin on a new spinning lot as soon as there is an adequate amount of yarn on the bobbins. In the laboratory these small packages should be tested for count, twist, strength, evenness, and elasticity and the results recorded and compared with previous ones of similar quality. Following is an outline of what should happen to the yarn after it is conditioned.

Count. To determine the average count of the yarn or the yarn number, ten standard tests are made. From the readings the count and variability are calculated.

Twist. The measurement of twist in turns per inch (tpi) to one decimal place is made in an ordinary twist tester on 5″ or 10″ yarn lengths. The direction of twist—S or Z—is also determined.

Single-End Strength. This is the first measurement from which an estimate of quality can be made. Any judgment of its values should be related to the quality of the raw material from which the yarn is spun. Most spinners know by experience what average strength and elongation to expect according to the count, quality, and process.

Skein Strength. This is also a valuable measurement in that it relates in one figure the average strength and the strength distribution. The same figure gives also a fair estimate of the probable strength of the weakest place in the yarn and enables the spinner to judge, with fair accuracy, the maximum constant tension which the yarn can sustain in subsequent processes with the minimum of breaks.

Evenness or Regularity. A yarn evenness tester can be very useful. Simultaneously, the general appearance of the yarn can be checked on the conventional blackboard, for hairiness, neppiness, etc., to supplement data from the electric testers.

Synthetic-Staple Yarns, Blends. Under this category, in addition to the tests mentioned for staple yarns, it is advisable to check:

1. Length and denier of the staple.
2. Amount of lubricant.
3. Percentage of different fibers present.
4. Color or tint used in blending.

Classification of Yarn Defects. All defects appearing on any type of yarn or package can be broadly classified as (a) spinning and (b) visual defects. Under these broad headings are divisions holding separate single defects. The following are definitions and possible causes for the most common defects appearing in yarns:

SPINNING DEFECTS

Soft Yarn. Yarn with less than nominal twist generally caused by slack spindle bands, twist change gear too large, or empty bobbins not properly pushed down during doffing.

Thin Places. Appearing at regular or irregular intervals in the yarn, these can be caused by a broken tooth in one of the roller gears, sections of bottom roll loose in necks, roll or gear run-out, traverse rod holes blocked with waste, and creel rods out of position.

Slubs. These occur when twist in the yarn is not uniform. They appear as thick places which have received insufficient twist and are caused by what is called "thick" or "jammed" roving, i.e. two rovings overlapping each other and passing through the roller without receiving the amount of required twist. Also by waste dropping from the top clearer onto the roving between the rollers.

Crackers. Small bunches of short or broken fibers tightly twisted so as to form a short, thick place in yarn. They are caused by careless starting and stopping of the spinning frame, too-close rollers, too-light travelers, mixing staples too different in length, overdrafting at the spinning frame, etc. Crackers are rather serious yarn defects and possibly may be only discovered when they reach the reed in the loom.

Dirty and Oil-Stained Yarn. This defect is caused in numerous ways: Making piecings with oily fingers, full roving bobbins dropped to the floor during transportation from one department to another, oily roving bobbins, too much oil on roller necks, and oil escaping from various parts of the drafting and spindle mechanisms and flying on the yarn. This type of defect is mainly caused from carelessness of the operatives and the mechanics.

Uneven Yarn. Travelers too heavy, or from spinning fine counts from inferior staple.

Tender Yarn. Caused by imperfect travelers, waste on travelers, incorrect ring rail adjustment, thread guides out of position.

Kinky Yarn. A definite deflection of a portion of the length of a yarn from the general direction assumed by the remainder. It is caused by insufficient setting (steaming) of the twist or two-high twist. Kinks may also be caused by tension difficulties.

Off-Shade Yarn. This type of defective yarn is closely related to soiled yarn, but it is likely to be more in quantity of off-shade type than of soiled type yarn. Wrong mixing of raw staple may cause this defect.

FILAMENT YARNS

Filament yarns usually undergo tests similar to those given staple yarns. Furthermore, additional tests for checking the number of filaments of the yarn, and its cross-section appearance are often practiced. Another test of importance determines oil content—oil applied during spinning or extruding. The amount of oil added varies from manufacturer to manufacturer, 0.5 per cent to 3.0

per cent, depending on the type of yarn, its end use, and its denier.

It is worth noting that the oil content of a filament yarn can influence (besides yarn weight) such points as dye pick-up, the formation of streaks in woven and knitted fabrics, the luster, brightness, or whiteness of the yarn, and the "sewability" of the fabric.

Non-Uniformly Stretched Yarn. Yarn which has not been stretched after extrusion to the correct degree (amount), behaves unevenly in its stress and strain properties. This type of defect causes many difficulties in processing, and quite often the effect is not noticeable until the yarn has been woven and finished.

Dry Yarn. Sometimes, by visual examination, a yarn which has not received oil can easily be detected. The oil application roll, for some reason, was not operating correctly during spinning, or possibly yarn did not follow the correct path during extrusion. The resultant yarn is dry and harsh and the individual filaments are separated one from another. Thus the physical properties are greatly affected. There is no remedy for this defect, but to find the particular bobbin or bobbins from the spinning lot and discard it.

Wrong Cross-Section. This often occurs in rayon and acetate yarns. The cross-section is important to yarn brightness, appearance, and some of its physical properties. This defect can be caused by using the wrong type of spinning jet, varying the temperature of the coagulating zones of the machine, and varying the spinning speed and chemical constitution of the raw material. Only careful and well organized control could minimize such a defect.

Incorrect Number of Filaments. Each yarn is composed of a number of fine filaments which make up the final denier, and quite often this number is not correct. Such a defect can occur either when one or more holes of the spinning jet are blocked during spinning or during winding, or when one or more filaments jump off the thread guide and the operative fails to correct it in time. Filament breakage can take place at any stage during processing—winding, twisting, pirning, warping, sizing, and even during weaving. Operative attention, along with careful yarn handling and smooth thread guides in all machines through which the yarn passes, will control that.

VISUAL DEFECTS

Although some of the defects already described are of a visual nature, they are usually detected by various tests in the laboratory. The following are visual defects that are actually observed by the yarn examiners before wrapping and packing:

Badly-Wound Yarn. The final type of package (cone, cheese, braider tube, etc.) sometimes is badly wound. This could be caused from defective operation of the traverse motion, or by bobbins being loose on the spindles.

Soft-Built Package. Very often, although yarn is neatly wound, the density or hardness of the package is very low, and thus there is danger of distorting the yarn. This can be caused by using incorrect tension or winding speed, incorrect number of winds per stroke, unsuitable build and size of package for the particular type of yarn, or a building device not properly adjusted or badly worn. Packages of this type are usually sold as hard waste.

Soil and Dirt. This can be caused when examiners' hands or clothes are not clean or during transportation of the yarn from spinning or winding departments to the inspection department.

Incorrect Package Dimensions. This occurs when yarn length is not in agreement with the customer's requirements. When such a defect occurs, yarn should not be disposed as waste, but should, if permissible, be used to fill other orders where customers do not specify dimensions or weight particulars for each package. To determine quickly the diameter of package some mills use the gauge illustrated in Fig. 1.

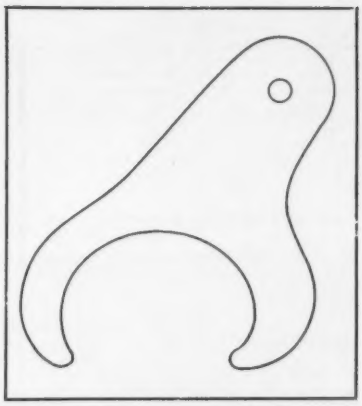


FIGURE 1. A type gauge used for approximating the diameters of yarn packages.

Wrong Identification. Each package of yarn usually has a small identification ticket stuck on it at a convenient place. The ticket shows the denier, twist, shade, and blend of yarn. Very often, especially when changing spinning lot numbers, the operative forgets to change his/her ticket. This can be avoided by close supervision. Incidentally, the correct identification should be placed outside each box containing the yarn packages.

YARN QUALITY REPORTING

In yarn grading, as in fabric grading, the quality control program is usually administered by the yarn quality-control supervisor who has duties similar to the fabric quality control supervisor (see TI for April 1959, page 107). Only his group is solely concerned with yarns.

The yarn quality control supervisor, however, appears to have an easier job to follow because his product does not undergo the weaving and finishing processes, which, inevitably add a great deal in the list of points to be taken into consideration in grading.

Nevertheless, items such as maintenance of the grading system along the lines defined by the company's grading policy, issuance of standards and reports, training of personnel, and handling yarn complaints, still come under his group.

Fig. 2 shows the information forwarded to his office from the

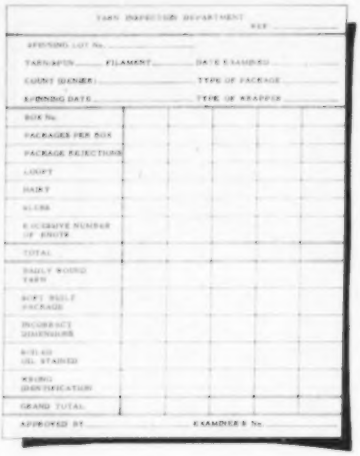


FIGURE 2

FIGURE 3

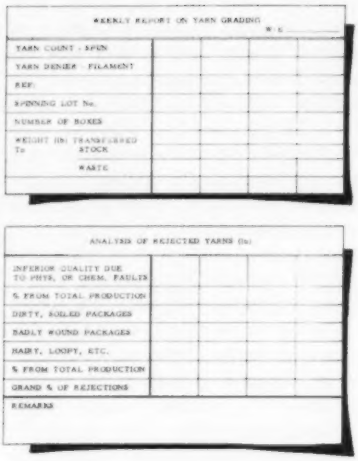


FIGURE 4

examination department. Fig. 3 carries information concerning physical properties and comes from the textile and chemical laboratories. These are daily reports which are summarized in records for each quality of yarn produced in the mill. The yarn quality control department issues a weekly report of the grading results, with a brief defect analysis, to the management. Fig. 4 illustrates a suggested type of form for such a report.

There are actually no established grading systems for yarns, such as the "point grading system" adopted in fabric grading. The yarn quality control supervisor is in close contact with the lab and the inspection room as well as with the production supervisors. His decision in grading a yarn will not cause as much loss in dollars as that of the finished fabric quality department.

Some mills, however, grade their yarns as A, B, and sometimes C (A being first quality), but in common practice the standard yarn which represents the product of the mill is always the "A" quality. Inferior yarn or package are still sold under the full acceptance of the customer.

Yarn Complaints. No matter how efficiently a mill might work and the quality control department might operate, customer complaints are certain. If the complaint is connected with the appearance of the yarn or package, the yarn quality control department refers to forms in Figs. 2 and 4 where the condition of the particular spinning lot of yarn under complaint is recorded before it leaves the inspection room.

Should the complaint include items connected with physical or chemical properties of the yarn, then reference to forms in Figs. 3 and 4 is made. In the latter case, the yarn returned by customer is rechecked and compared again against standards.

Before going to the trouble of checking all the physical or chemical properties of the yarn, make sure that the yarn in question is not the product of a competitor. Sometimes this is difficult to detect, but many mills have established their own means which enables them to identify their yarn. However, yarn complaints must always be handled very carefully.

It is clear that this article does not give the full picture, but only an outline of methods used and classification of some common defects, which, nevertheless, might be used with considerable benefit. These methods are not the only ones. They may differ from mill to mill, according to individual choice, methods, and customers' requirements.

Tables speed calculation of cotton strength

■ TABLES have been prepared to reduce the time required for calculating cotton fiber strength for users of the flat-bundle, ⅛-inch-gauge tests. The tables supplement those prepared for the 0-inch-gauge tests previously published, and are contained in bulletin AMS-323.

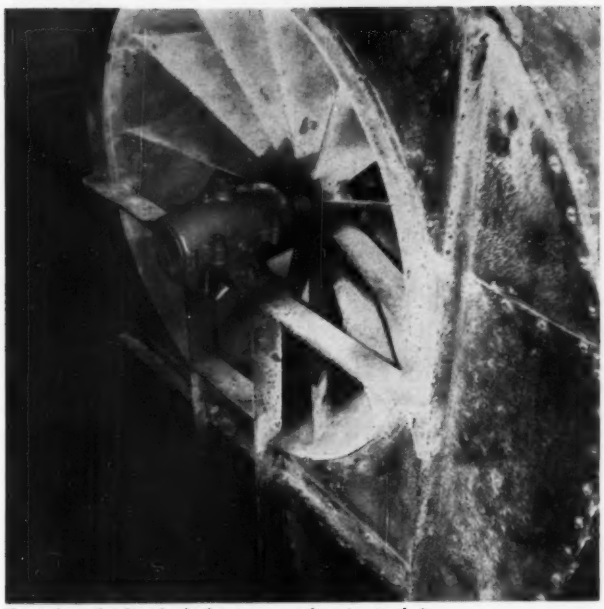
The formula used in making the calculations, and which will be of use in cases where the tables fail to accommodate a particular beam reading or fiber bundle weight, is

$$\text{Fiber strength ratio (1/8-inch gauge)} = \frac{\text{Beam reading (pounds)}}{\text{Bundle weight (milligrams)}}$$

Included is a page devoted to converting strength-weight ratios to grams per tex, the internationally recommended expression for tenacity. This conversion table is based on the tex unit being equal to the weight in grams of 1000 meters of the material and the length of the specimen being equal to 1.5 centimeters. The specimen length includes both the width of the jaws and the ⅛-inch spacing between them. The formula used in this set of calculations is

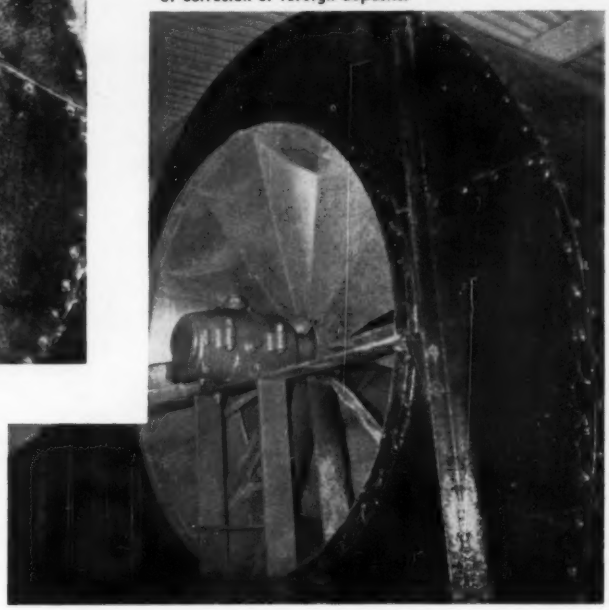
$$\text{Grams per tex} = \text{fiber strength ratio} \times 6.80$$

The tables were prepared in the laboratories of the United States Department of Agriculture, Agricultural Marketing Service, Cotton Division, Washington, D. C.



This is how the fans look about two weeks prior to their annual cleaning and painting

Two weeks after the reconditioning they show little sign of corrosion or foreign deposits.



Air-wash-system upkeep cost cut $450 a year

Mills finds that with special corrosion-resistant materials once-a-year painting of fans and ducts is adequate

Staff prepared Exclusive

ONE PROMINENT southern textile mill making combed-yarn goods — including broadcloths, twills, and sateens— closes the plant during the week of July 4 for vacations. Any major maintenance problems are handled at that time.

Two air-wash-system fans with blades six feet in diameter posed a major problem, for maintenance crews had to clean and paint them and the companion duct work twice a year. (The first time these were cleaned they had been in operation for nine years, and removing the corrosion threw the fans out of balance. Housings also were in poor condition.)

Casting about in search for a paint that would give adequate protection for much longer periods, the firm tried several protective coatings before deciding on the present ones.

The moisture-laden air from the air-wash systems has its corrosive properties supplemented by other impurities that just naturally get circulated through such systems. But the present paints used resist corrosion so well that the fans need cleaning and painting only once a year. Fewer deposits are found than formerly, and the cleaning is easier and it takes less time.

As the washed air is used for humidification, the corrosion-resistant paint is applied part way into the ducts. Then, a rust-arresting paint is used on the remainder of the approximately 1000 feet of duct work, which is made of galvanized sheet metal. A similar paint, red in color, is used on the inlet guard, fan blades, and shaft. A black coating used on fan housings is supplied by a well-known air conditioning firm.

The end result of the search amounts to an adequately maintained air-wash duct system and a yearly savings of $400 in labor and of $50 in paints. Four men clean and paint the fans while four men clean and paint the duct work at this mill.

Allen Heath looks over the new variable-speed woolen spinning frames in operation at Manetta Mills. Note the balloon control rings.

SIX POUNDS FOR FIVE

At Manetta Mills variable speed woolen spinning frames produce 20% more than conventional models

Staff prepared Exclusive

VARIABLE speed spinning is currently producing 20% more per spindle at Manetta Mills, Lando, S. C., than are conventional frames. Harry Heath, president of Manetta Mills, wanted something new and with a potential rather than something that was old and tried. This is in keeping with the progressive attitude at Manetta. The new and improved Model F variable speed spinning frame filled the bill.

The frame reduces speed to ease the tensions that build up when the package approaches its minimum diameter, and it increases its speed as it traverses to the package's maximum diameter. This changing "angle of pull" is thus observed to prevent a rise in ends down as the frame eases by that small-diameter trouble spot.

It more than makes up for its "caution" by accelerating to much higher speeds as the angle of pull changes and reduces its drag. (Conventional spinning has long since run at a speed largely suggested by running qualities with this angle of pull at a minimum.)

In short, the new frame will run fast when it can, but slowly when it must.

Front roll speeds are 20 per cent higher than were used on the conventional frames, the rings are ½" larger (from 5" to 5½"), and the traverse is longer by three inches —from 10" to 13". The over-all result is an appreciable increase in package size with attendant labor savings.

Drive controls are adjustable to regulate: (1) running speed; (2) slow speed cycle; (3) high speed cycle; (4) jack-shaft-to-gear ratio; (5) rail sensitivity; and (6) acceleration from zero speed.

After the first few layers of yarn are wrapped on the bare bobbin, the spinning speed begins to increase progressively toward the package shoulders, dropping to

M. R. Jones, carding overseer, points to the adjustable speed drive as W. C. Bolton, superintendent, holds the speed control button.

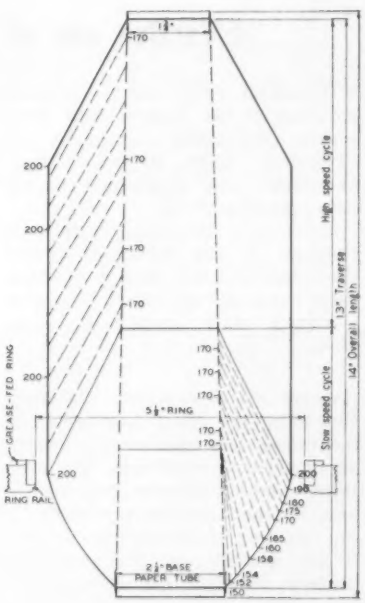
the preset speed as the yarn is chased toward the bobbin or package nose. This portion of the build, during which the package base is built, is referred to as the "slow-speed cycle," and the frame spends as much time in this cycle as is necessary to build the desired base. It progresses to the high-speed cycle as it finishes filling the package.

The mill now puts 1.8 pounds on an average bobbin that measures 14¼" with a 13" yarn traverse. Manetta spins 2.45s cotton counts and 2.85s on all synthetics and blends for blankets. Stock run includes 1½ to 6 denier on viscose, Acrilan, Orlon, nylon, and other synthetics in blends—1 9/16" - 3" staple is used.

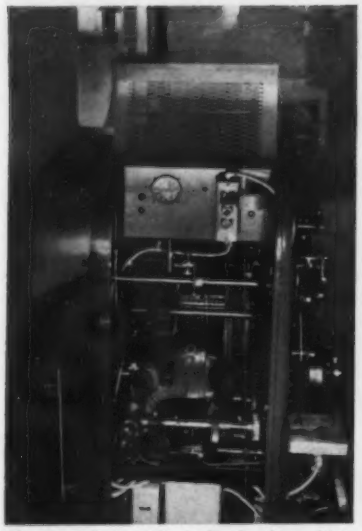
Automatic lubrication, pneumatic broken end collection, balloon control rings, and paper tubes are other modern attributes of the frames. Automatic lubrication takes care of rings, and a one-shot system lubricates all other parts needing oil. The pneumatic end collection system has improved the grade of waste from spinning. No maintenance has been necessary to date.

Spindle speed varies from about 4,000 to 5,000 rpm. Formerly, front roll speed was standardized at 150 rpm on 1¼" rolls. Now, average front roll speed is 180-198 rpm with the variable-speed drive feature. Dimensions of the new frames are identical with other frames of the same make except for length. The gauge was increased from 6½ to 7 to accommodate the larger rings, so the new frames are about three feet longer than the 6½-gauge frames.

The precise control of yarn tension provided by the electronically controlled Adjusto-Spede drive



A schematic drawing of a package built by varying spinning speeds as the frame chases a layer of yarn from nose to shoulder. Toward the shoulder the spinning speed is increased to take advantage of the increasing angle of pull and the subsequent drop in yarn tension. Numbers along bobbin (paper tube) and outer layers of yarn represent front roll revolutions per minute used at those parts of the build. The slow-speed cycle is as long as is needed to get the required bobbin base. Note that speeds progress from there to high-speed cycle.



Close-up of the Adjusto-Spede drive. Note tachometer at left on control panel.

brings the following benefits at Manetta:

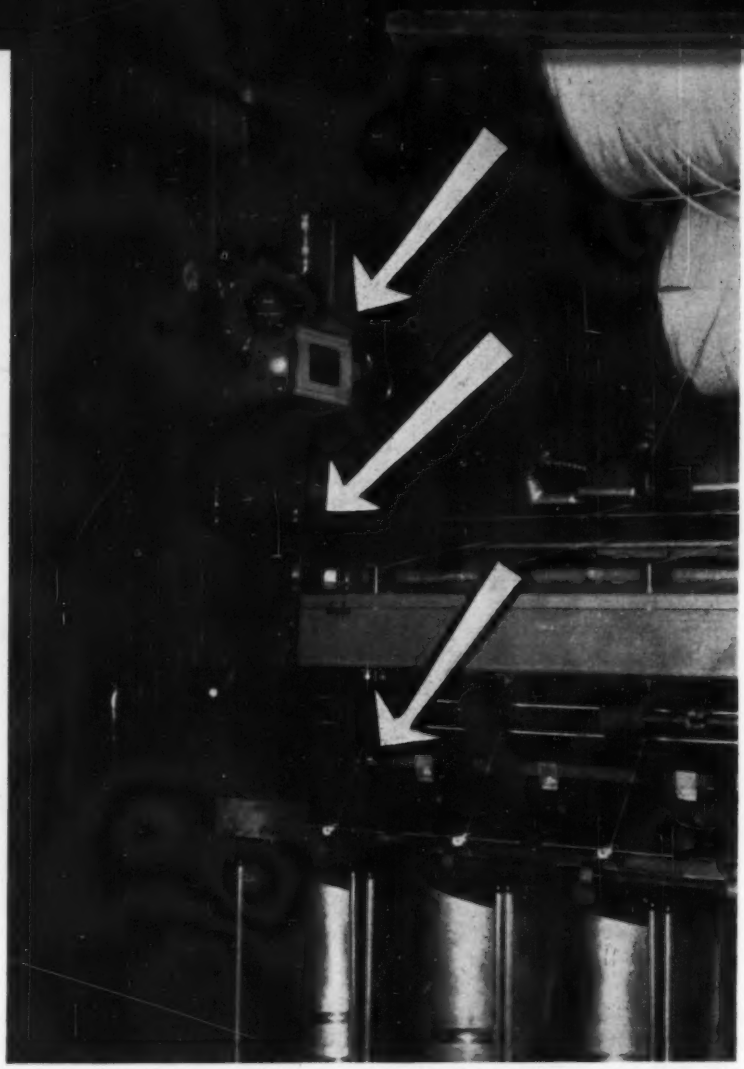
(1) Production increase of 20 per cent.

(2) More uniform yarn density and build of bobbin.

(3) Less downtime.

(4) Lower production cost.

Regular frames require 15 hp in this mill; variable-speed-drive frames require 25 hp motor on a 152-spindle frame. Two of the new frames have been in operation since early July, 1959.



An automatic unit (top arrow) keeps the rings lubricated. Middle arrow indicates the knob used in setting roving tension. Bottom arrow points to tube of pneumatic end collector.

Effective use of data processing equipment discussed by mill men

■ NEARLY 100 textile officials, members of the Textile Data Processing Association, gathered on September 14-15 to share their knowledge and experience in the data processing field.

Conference chairman Harold E. Williams of The American Thread Co. reported that the agenda this time explored the effective use of electronic data processing equipment.

Effect on Management Practices. One point the group examined was the impact the equipment is having on managerial techniques. The electronics age of business management has wrought important changes in the handling of administrative tasks, it was pointed out. For years the business man has had to work out his decisions and do his planning on the basis of masses of accumulated data. He has had to organize and summarize and refine countless facts until, finally, he arrived at what he held to be the truth, or the norm in a given situation. Now, with electronic data processing, he must learn to administer not by the norm, but by variations from the norm—a totally different concept. Ralph Weindling of John Diebold and Associates and E. L. Smith, Jr., of E. I. du Pont de Nemours & Co., together with A. D. McCoy of International Business Machines Corp. headed up a panel discussing this subject.

Sales Forecasting. Another subject the group considered was the application of electronic data processing techniques to sales forecasting. James H. Dornburg of Chatham Manufacturing Co., discussed what sales forecasting is, how a forecast is developed, and what factors affect its accuracy.

How to use a sales forecast after it has been developed was covered, first from the production manager's point of view, by H. W. Spencer of The American Thread Co., and then from the financial officer's point of view by Mr. Williams.

One other panel reviewed cost accounting. The panelists here were B. D. Radford of A. M. Pullen & Co. and Leslie W. Gaulden of Cone Mills Corp.

REPRINTS of this chart are available. Write The Editors, "Textile Industries," 806 Peachtree St., N.E., Atlanta 8, Ga.

Tear along this line to post on mill bulletin board

MESSY! COSTLY! DANGEROUS!

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Textile Industries

35

WEAVING PRODUCTION CHART

By James B. Williams
Exclusive

THIS TABLE gives loom production in thousands of picks per loom hour at 100 per cent efficiency. For convenience the loom speeds are given in tenths of a pick per minute up to one pick per minute and in single picks from 140 to 200 ppm.

Example: Find production in thousands of picks on a stand of 48 looms running for 40 hours at 156.3 ppm.

Solution: Under Loom Speed find 156, and opposite this find 374.40 in the 40-loom column and 74.88 in the 8-loom column.

Next, opposite 0.3 find 0.72 in the 40-loom column and 0.144 in the 8-loom column.

Total the production figures—374.40, 74.88, 0.72, and 0.144—and multiply the result by 40. Thus, 450.144 x 40 gives a 40-hour production figure of 1,800.576.

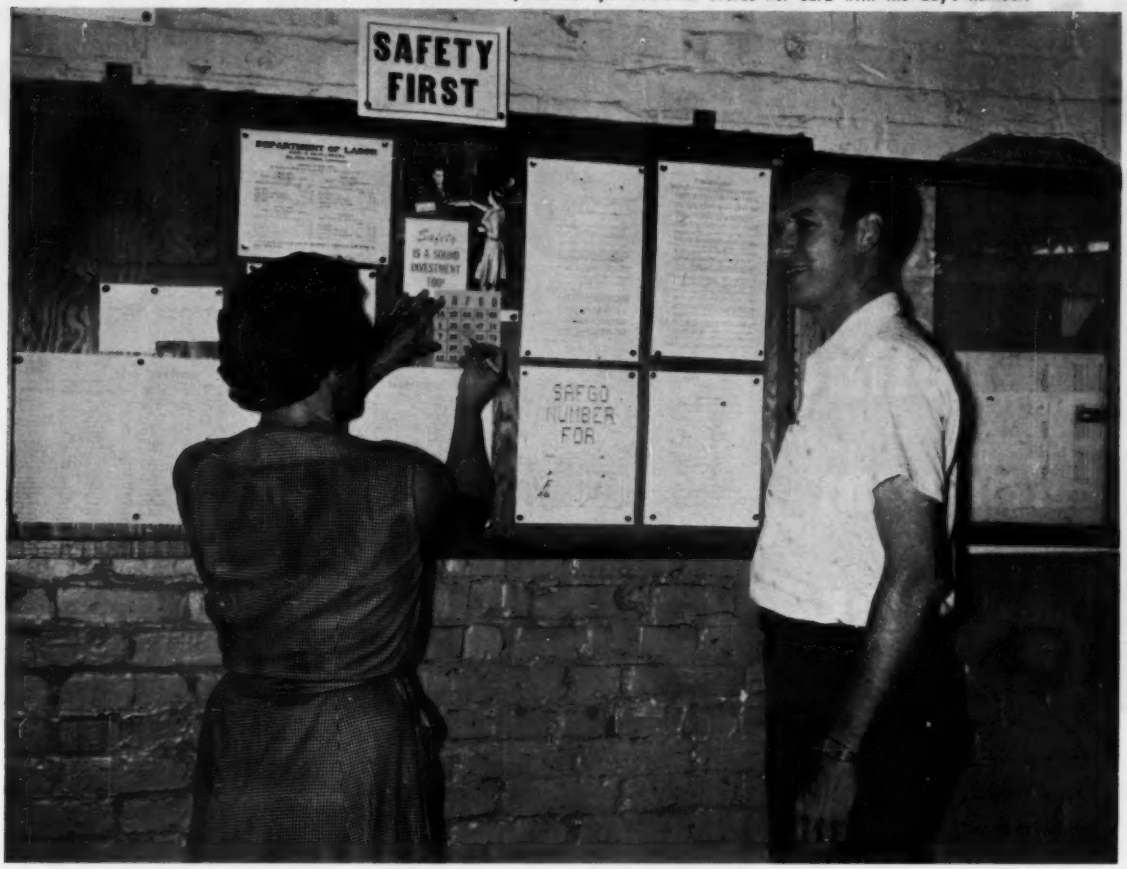
Thousands of picks per hour at 100 per cent efficiency

Loom speed	1 loom	2 looms	3 looms	4 looms	5 looms	6 looms	7 looms	8 looms	9 looms	10 looms	20 looms	30 looms	40 looms	50 looms
0.1	0.006	0.012	0.018	0.024	0.030	0.036	0.042	0.048	0.054	0.060	0.120	0.180	0.240	0.300
0.2	0.012	0.024	0.036	0.048	0.060	0.072	0.084	0.096	0.108	0.120	0.240	0.360	0.480	0.600
0.3	0.018	0.036	0.054	0.072	0.090	0.108	0.126	0.144	0.162	0.180	0.360	0.540	0.720	0.900
0.4	0.024	0.048	0.072	0.096	0.120	0.144	0.168	0.192	0.216	0.240	0.480	0.720	0.960	1.200
0.5	0.030	0.060	0.090	0.120	0.150	0.180	0.210	0.240	0.270	0.300	0.600	0.900	1.200	1.500
0.6	0.036	0.072	0.108	0.144	0.180	0.216	0.252	0.288	0.324	0.360	0.720	1.080	1.440	1.800
0.7	0.042	0.084	0.126	0.168	0.210	0.252	0.294	0.336	0.378	0.420	0.840	1.260	1.680	2.100
0.8	0.048	0.096	0.144	0.192	0.240	0.288	0.336	0.384	0.432	0.480	0.960	1.440	1.920	2.400
0.9	0.054	0.108	0.162	0.216	0.270	0.324	0.378	0.432	0.486	0.540	1.080	1.620	2.160	2.700
1.0	0.060	0.120	0.180	0.240	0.300	0.360	0.420	0.480	0.540	0.600	1.200	1.800	2.400	3.000
140	8.40	16.80	25.20	33.60	42.00	50.40	58.80	67.20	75.60	84.0	168.0	252.0	336.0	420.0
1	8.46	16.92	25.38	33.84	42.30	50.76	59.22	67.68	76.14	84.6	169.2	253.8	338.4	423.0
2	8.52	17.04	25.56	34.08	42.60	51.12	59.64	68.16	76.68	85.2	170.4	255.6	340.8	426.0
3	8.58	17.16	25.74	34.32	42.90	51.48	60.06	68.64	77.22	85.8	171.6	257.4	343.2	429.0
4	8.64	17.28	25.92	34.56	43.20	51.84	60.48	69.12	77.76	86.4	172.8	259.2	345.6	432.0
5	8.70	17.40	26.10	34.80	43.50	52.20	60.90	69.60	78.30	87.0	174.0	261.0	348.0	435.0
6	8.76	17.52	26.28	35.04	43.80	52.56	61.32	70.08	78.84	87.6	175.2	262.8	350.4	438.0
7	8.82	17.64	26.46	35.28	44.10	52.92	61.74	70.56	79.38	88.2	176.4	264.6	352.8	441.0
8	8.88	17.76	26.64	35.52	44.40	53.28	62.16	71.04	79.92	88.8	177.6	266.4	355.2	444.0
9	8.94	17.88	26.82	35.76	44.70	53.64	62.58	71.52	80.46	89.4	178.8	268.2	357.6	447.0
150	9.00	18.00	27.00	36.00	45.00	54.00	63.00	72.00	81.00	90.0	180.0	270.0	360.0	450.0
1	9.06	18.12	27.18	36.24	45.30	54.36	63.42	72.48	81.54	90.6	181.2	271.8	362.4	453.0
2	9.12	18.24	27.36	36.48	45.60	54.72	63.84	72.96	82.08	91.2	182.4	273.6	364.8	456.0
3	9.18	18.36	27.54	36.72	45.90	55.08	64.26	73.44	82.62	91.8	183.6	275.4	367.2	459.0
4	9.24	18.48	27.72	36.96	46.20	55.44	64.68	73.92	83.16	92.4	184.8	277.2	369.6	462.0
5	9.30	18.60	27.90	37.20	46.50	55.80	65.10	74.40	83.70	93.0	186.0	279.0	372.0	465.0
6	9.36	18.72	28.08	37.44	46.80	56.16	65.52	74.88	84.24	93.6	187.2	280.8	374.4	468.0
7	9.42	18.84	28.26	37.68	47.10	56.52	65.94	75.36	84.78	94.2	188.4	282.6	376.8	471.0

6	9.36	18.72	28.08	37.44	46.80	56.16	65.52	74.88	84.24	93.6	187.2	280.8	374.4	468.0
7	9.42	18.84	28.26	37.68	47.10	56.52	65.94	75.36	84.78	94.2	188.4	282.6	376.8	471.0
8	9.48	18.96	28.44	37.92	47.40	56.88	66.36	75.84	85.32	94.8	189.6	284.4	379.2	474.0
9	9.54	19.08	28.62	38.16	47.70	57.24	66.78	76.32	85.86	95.4	190.8	286.2	381.6	477.0
160	9.60	19.20	28.80	38.40	48.00	57.60	67.20	76.80	86.40	96.0	192.0	288.0	384.0	480.0
1	9.66	19.32	28.98	38.64	48.30	57.96	67.62	77.28	86.94	96.6	193.2	289.8	386.4	483.0
2	9.72	19.44	29.16	38.88	48.60	58.32	68.04	77.76	87.48	97.2	194.4	291.6	388.8	486.0
3	9.78	19.56	29.34	39.12	48.90	58.68	68.46	78.24	88.02	97.8	195.6	293.4	391.2	489.0
4	9.84	19.68	29.52	39.36	49.20	59.04	68.88	78.72	88.56	98.4	196.8	295.2	393.6	492.0
5	9.90	19.80	29.70	39.60	49.50	59.40	69.30	79.20	89.10	99.0	198.0	297.0	396.0	495.0
6	9.96	19.92	29.88	39.84	49.80	59.76	69.72	79.68	89.64	99.6	199.2	298.8	398.4	498.0
7	10.02	20.04	30.06	40.08	50.10	60.12	70.14	80.16	90.18	100.2	200.4	300.6	400.8	501.0
8	10.08	20.16	30.24	40.32	50.40	60.48	70.56	80.64	90.72	100.8	201.6	302.4	403.2	504.0
9	10.14	20.28	30.42	40.56	50.70	60.84	70.98	81.12	91.26	101.4	202.8	304.2	405.6	507.0
170	10.20	20.40	30.60	40.80	51.00	61.20	71.40	81.60	91.80	102.0	204.0	306.0	408.0	510.0
1	10.26	20.52	30.78	41.04	51.30	61.56	71.82	82.08	92.34	102.6	205.2	307.8	410.4	513.0
2	10.32	20.64	30.96	41.28	51.60	61.92	72.24	82.56	92.88	103.2	206.4	309.6	412.8	516.0
3	10.38	20.76	31.14	41.52	51.90	62.28	72.66	83.04	93.42	103.8	207.6	311.4	415.2	519.0
4	10.44	20.88	31.32	41.76	52.20	62.74	73.08	83.52	93.96	104.4	208.8	313.2	417.6	522.0
5	10.50	21.00	31.50	42.00	52.50	63.00	73.50	84.00	94.50	105.0	210.0	315.0	420.0	525.0
6	10.56	21.12	31.68	42.24	52.80	63.36	73.92	84.48	95.04	105.6	211.2	316.8	422.4	528.0
7	10.62	21.34	31.86	42.48	53.10	63.72	74.34	84.96	95.58	106.2	213.4	318.6	424.8	531.0
8	10.68	21.36	32.04	42.72	53.40	64.08	74.76	85.44	96.12	106.8	213.6	320.4	427.2	534.0
9	10.74	21.48	32.22	42.96	53.70	64.44	75.18	85.92	96.66	107.4	214.8	322.2	429.6	537.0
180	10.80	21.60	32.40	43.20	54.00	64.80	75.60	86.40	97.20	108.0	216.0	324.0	432.0	540.0
1	10.86	21.72	32.58	43.44	54.30	65.15	76.02	86.88	97.74	108.60	217.20	325.80	434.40	543.00
2	10.92	21.84	32.76	43.68	54.60	65.52	76.44	87.36	98.28	109.20	218.40	327.60	436.80	546.00
3	10.98	21.96	32.94	43.92	54.90	65.88	76.86	87.84	98.82	109.80	219.60	329.40	439.20	549.00
4	11.04	22.08	33.12	44.16	55.20	66.24	77.28	88.32	99.36	110.40	220.80	331.20	441.60	552.00
5	11.10	22.20	33.30	44.40	55.50	66.60	77.70	88.80	99.90	111.00	222.00	333.00	444.00	555.00
6	11.16	22.32	33.48	44.64	55.80	66.96	78.12	89.28	100.44	111.60	223.20	334.80	446.40	558.00
7	11.22	22.44	33.66	44.88	56.10	67.32	78.54	89.76	100.98	112.20	224.40	336.60	448.80	561.00
8	11.28	22.56	33.84	45.12	56.40	67.68	78.96	90.24	101.52	112.80	225.60	338.40	451.20	564.00
9	11.34	22.68	34.02	45.36	56.70	68.04	79.38	90.72	102.06	113.40	226.80	340.20	453.60	567.00
190	11.40	22.80	34.20	45.60	57.00	68.40	79.80	91.20	102.60	114.00	228.00	342.00	456.00	570.00
1	11.46	22.92	34.38	45.84	57.30	68.76	80.22	91.68	103.14	114.60	229.20	343.80	458.40	573.00
2	11.52	23.04	34.56	46.08	57.60	69.12	80.64	92.16	103.68	115.20	230.40	345.60	460.80	576.00
3	11.58	23.16	34.74	46.32	57.90	69.48	81.06	92.64	104.22	115.80	231.60	347.40	463.20	579.00
4	11.64	23.28	34.92	46.56	58.20	69.84	81.48	93.12	104.76	116.40	232.80	349.20	465.60	582.00
5	11.70	23.40	35.10	46.80	58.50	70.20	81.90	93.60	105.30	117.00	234.00	351.00	468.00	585.00
6	11.76	23.52	35.28	47.04	58.80	70.56	82.32	94.08	105.84	117.60	235.20	352.80	470.40	588.00
7	11.82	23.64	35.46	47.28	59.10	70.92	82.74	94.56	106.38	118.20	236.40	354.60	472.80	591.00
8	11.88	23.76	35.64	47.52	59.40	71.28	83.16	95.04	106.92	118.80	237.60	356.40	475.20	594.00
9	11.94	23.88	35.82	47.76	59.70	71.64	83.58	95.52	107.46	119.40	238.80	358.20	477.60	597.00
200	12.00	24.00	36.00	48.00	60.00	72.00	84.00	96.00	108.00	120.00	240.00	360.00	480.00	600.00

Tear along this line

Industrial Relations Director E. M. Diaz stands by as Gladys McCotter scores her card with the day's number.



"Safgo is a game"

How a bingo-like safety game is paying off in a South Carolina mill

Staff prepared Exclusive

GOOD safety habits and a good attendance record qualify employees for valuable prizes at American Thread Co., Clover, S. C. The name of the game used to promote safety at this mill is SAFGO, and it is played like BINGO except the cards are headed by the letters S A F G O.

According to Ed Diaz, industrial relations director at Clover, the program has been quite successful: there have been no lost time nor medical accidents since the game was started, and only one first aid accident has occurred since its inception. The usual average had been four medical accidents per month.

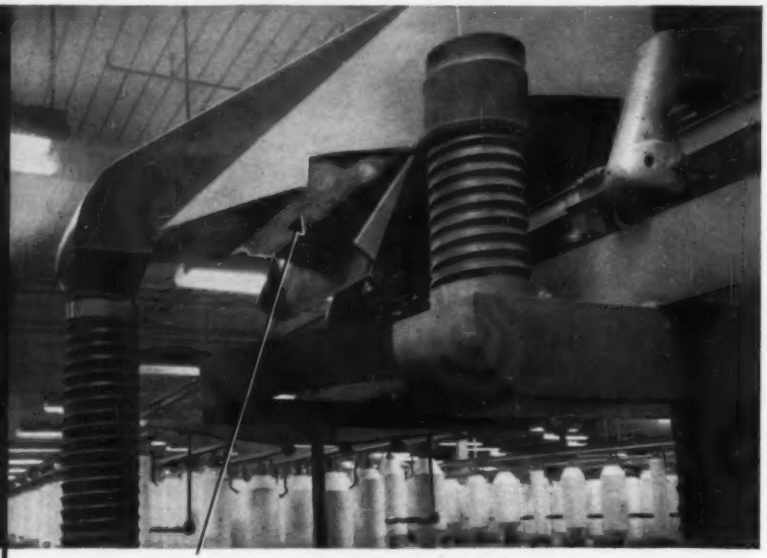
Briefly, the procedure is: (1) get the attention and the interest of all employees; (2) explain the game and its operation to them; and (3) have them participate actively. All employees paid by the hour or on incentive pay may compete.

First, signs reading "SAFGO IS COMING" were posted on the various bulletin boards throughout

R. M. Pully, manager at the Clover plant, draws the first number to start the contest moving.

LINT DISAPPEARS

with Traveling Vacuum Cleaner



Door opens automatically exposing collected lint on screen as traveling unit approaches stationary vacuum cleanout box.

Stationary vacuum nozzle strips traveling vacuum screen clean as unit passes over. Door then closes and unit goes back to work keeping frames and floor continuously clean.

LOW COST!

. . . one "vac" cleans up to 30 frames automatically!

Your machinery stays cleaner . . . your yarn turns out better . . . your mill's working conditions are immediately improved.

Every American Monorail Cleaner is engineered to do a specific job efficiently, safely, and with minimum maintenance. Initial cost is low for the amount of cleaning accomplished. Check with American Monorail for any type of automatic cleaning.

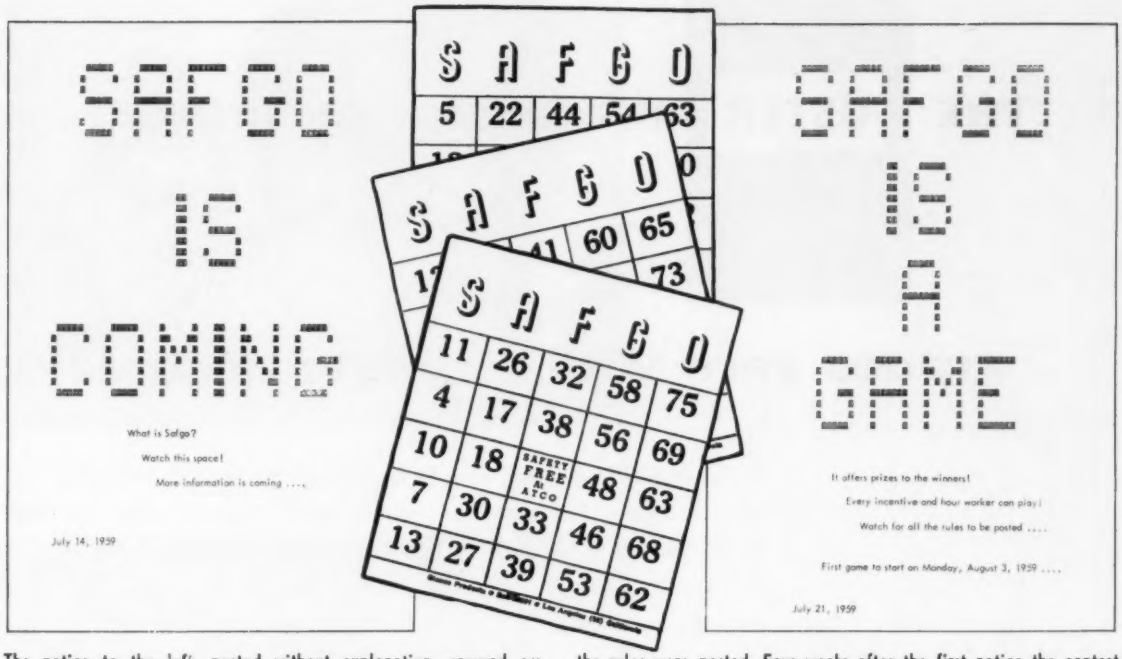
AMERICAN MONORAIL

Engineered Automatic Cleaning and Handling Systems

OVERHEAD HANDLING EQUIPMENT

1106 EAST 200th STREET CLEVELAND 17, OHIO

MEMBER OF AMERICAN TEXTILE MACHINERY ASSOCIATION


SAFGO
IS
COMING
What is Safgo?
Watch this space!
More information is coming ....
July 14, 1959
S A F G O
5 22 44 54 63
S A F G O
60 65
S A F G O
11 26 32 58 75
4 17 38 56 69
10 18 SAFETY FREE AT CO 48 63
7 30 33 46 68
13 27 39 53 62
SAFGO
IS
A
GAME
It offers prizes to the winners!
Every incentive and hour worker can play!
Watch for all the rules to be posted ....
First game to start on Monday, August 3, 1959 ....
July 21, 1959

The notice to the left, posted without explanation, aroused employee interest, which was further heightened a week later by the appearance of the notice to the right. Still another week later the rules were posted. Four weeks after the first notice the contest began. Each qualifying employee (see rules below) was given a Safgo card, center.

the plant. These aroused speculation and interest.

The following week signs reading "SAFGO IS A GAME" appeared on the boards, and the rules (see below) for the game appeared the following week. The firm purchased a tumbling cage for shuffling the numbers and got ready to start the contest . . .

Each employee is given a Bingo-like Safgo card at the beginning of each contest period. He fills the card in by applying the Safgo number posted daily on the bulletin boards. Once an employee has "Safgo'd" he or she is eligible for a prize *if he or she has not failed to report any accident incurred and on the day it was experienced.*

The program is designed so as not to discourage individuals from reporting accidents, but to discourage all accidents, particularly lost-time accidents, as well as absenteeism by keeping employees' attentions focused on safety. At Clover, the game has produced an unanticipated bonus in the form of improved employee morale.

The game may be tailored to suit individual plant needs, it is pointed out. Many inquiries concerning it have poured in from other firms, indicating that it fills a definite need.

RULES FOR THE "SAFGO" SAFETY CONTEST

1. Each employee will be given a Safgo card for use in a particular contest.
2. Each working day, Monday through Thursday, a number will be drawn, from a special selecting device, and posted on the bulletin boards.
3. Everyone who has this number on his or her card should cross it out immediately.
4. The first person to complete (by crossing out) a row of numbers, in any direction and has complied with the eligibility rules, should turn this card in to the Industrial Relations Department. The first person to turn in his or her completed card will be declared the winner, if the rules have been complied with.
5. New contests will be started at the discretion of the Company; however, contests will not be started more than once a month. Each time a new contest is started, a new Safgo card will be distributed to each employee.
6. If absent on any regularly scheduled workday, the employee may not use the number posted that day.
7. In case a card is lost, another card will not be issued until a new contest begins.

ELIGIBILITY

1. An employee who has had no lost time accidents, medical accidents, and has not been absent more than one scheduled work day during the contest will receive his or her choice of merchandise, from a special gift booklet, with a retail value up to $50.00.
2. An employee who has not had a lost time accident and has not been absent more than one scheduled work day during the contest will receive his or her choice of merchandise, from a special gift booklet, with a retail value up to $21.00.
3. If an employee fails to report any accident to his or her supervisor on the day that it occurs, this person will be ineligible to receive the prize during that particular contest.
4. In the event that the first person to complete the contest does not meet the above requirements, the contest will be continued until there is a winner. The Company will be the sole judge as to the eligibility of the winner.

THE USTER IMPERFECTION INDICATOR

grades yarn with ultimate accuracy!

NOW, A SINGLE TEST counts neps, thick places and thin places at the same time. Far more accurate than the trained human eye, the **Uster ImPerfection Indicator** automatically compensates for yarn size variation. No guess work. Exact count of neps, thin spots and thick places show in precise numbers for visual recording.

Grading moves fast with the **Uster ImPerfection Indicator.** The full range of imperfections in yarns and twists are correlated with A.S.T.M. yarn appearance standards by direct reading. A greater number of possible tests guarantees the highest statistical accuracy in history.

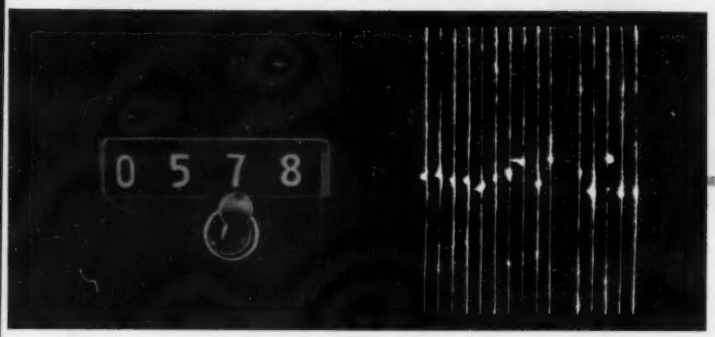
Yarns graded by the **Uster ImPerfection Indicator** insure your customers against broken picks and needle breaks while assuring perfect fabric appearance.

Set the **Uster ImPerfection Indicator** at a selected time to free the operator for other lab work. An automatic cut-off stops test. The count of neps, thick places and thin spots records simultaneously with the evenness test. No additional personnel or testing time is required.

The Uster Imperfection Indicator rounds out Continuous Quality Control in Manufacturing with

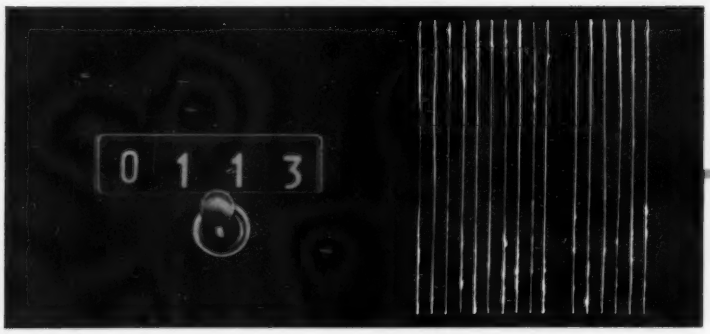
ultimate accuracy in yarn grading!

CONTINUOUS



counts neps

counts thick places



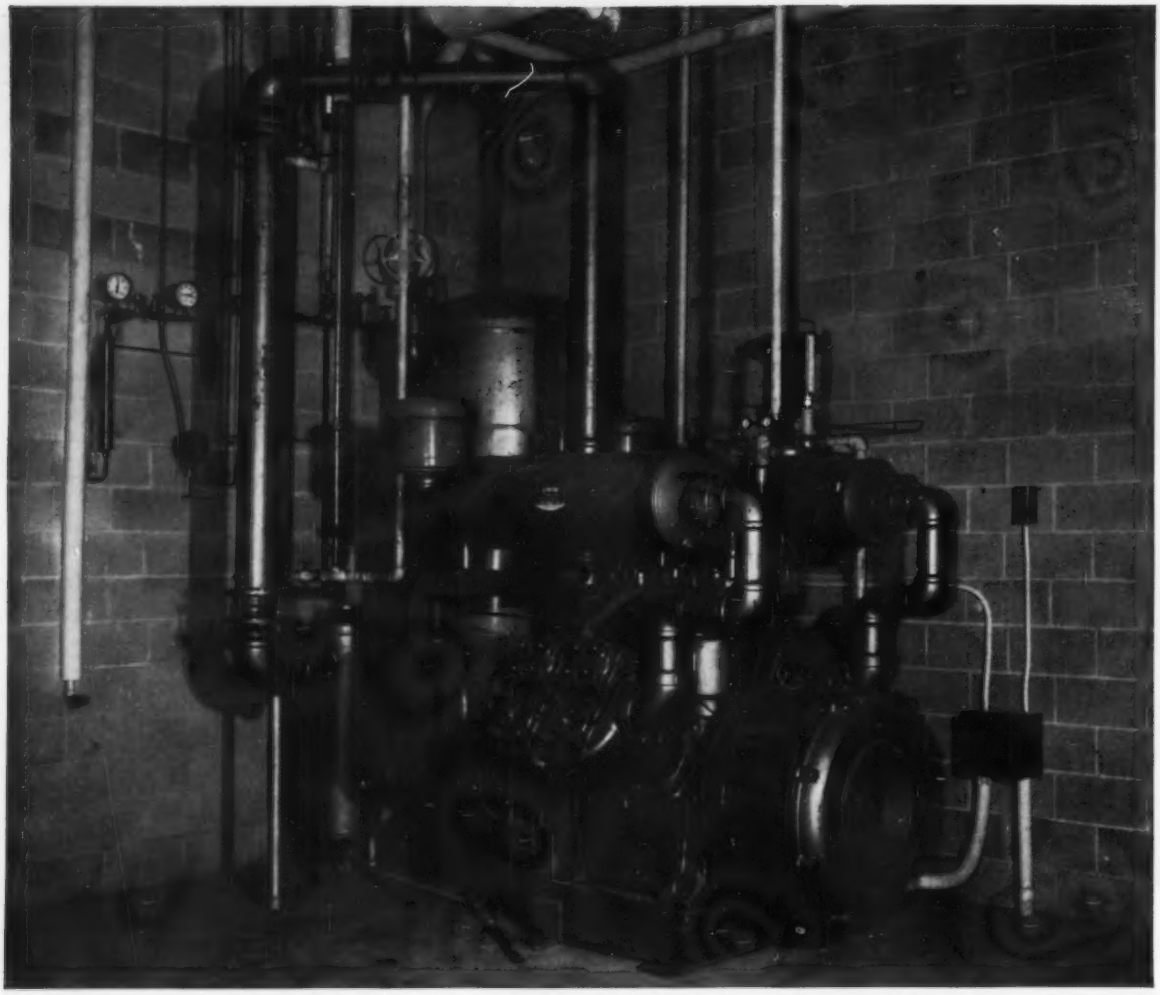
counts thin places

QUALITY CONTROL IN MANUFACTURING

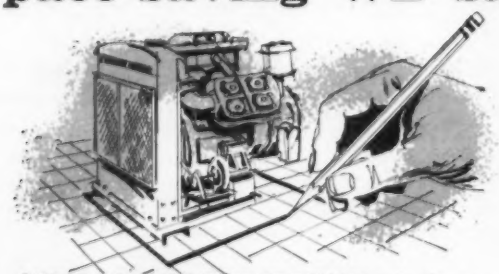
USTER CORPORATION
CHARLOTTE, NORTH CAROLINA

USTER

CANADIAN SALES OFFICES:
Hugh Williams & Co., 27 Wellington Street East, Toronto 1, Ontario



Space-saving WB saves floor-space dollars



SAVING YOUR FLOOR-SPACE DOLLARS—that's one more example of Gardner-Denver Engineering Foresight. Our engineers know your problems . . . design equipment to meet your needs. At Gardner-Denver there's no substitute for men—our 100-year philosophy of growth.

What's the yearly overhead for a square foot of floor space in your plant? That will indicate one of the savings you can expect—year after year—when you install a compact Gardner-Denver WB air compressor. For example, the WBJ displaces 686 cfm—occupies only a 5½′ x 6¼′ corner of your plant.

There are eight space-saving WB sizes from 142 to 1150 cfm piston displacement. Each size is a packaged unit that's easily and quickly installed without costly foundation work.

Noted for years of dependable, economical service. And here's one important reason: our workmen keep the machine *clean* during assembly. Write for Bulletin WB-10, or consult your Gardner-Denver compressor specialist.

GARDNER-DENVER Since 1859 100 1959 YEARS

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

GARDNER-DENVER

Gardner-Denver Company, Quincy, Illinois

Branch Offices: Atlanta, Ga.; Birmingham, Ala.; Knoxville, Tenn.; Washington, D. C.; Teterboro, N. J. (New York Office); Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.; Louisville, Ky.

Do you spin on the heavy side?

by Ralph C. Lathem*—Exclusive

A SURVEY of almost any spinning room will reveal that the yarn counts are being spun on the "heavy side," and that as long as the counts do not vary more than three per cent from the standard yarn count the practice is generally acceptable by management.

There are many reasons given for spinning counts slightly coarser than the standard, and the chief one is the increased poundage the heavier numbers reflect on the production sheet. Then, too, the spinning is likely to run with fewer ends down and thus boost employee morale.

Regardless of the reasons advanced, one needs only to look a little closer to see that the heavy counts are costing too much, that such running is economically unsound, and that the yarns should be made as light as is acceptable.

Nonetheless, the urge to "heavy up the count" is a persistent one, and plants operating under a taut quality control department often find that spinning supervision will keep the counts on the heavy side of quality control's allowances.

That it costs real money to give away so much fiber is shown in the calculations that follow. All the figures used are chosen as representative ones, but they do not reflect any one firm's production and cost schedules. Nor were they chosen arbitrarily just to prove a point. The data:

Yarn count, standard—	20.00s	Front roll speed (rpm)—	140
Twist multiple—	4.50	Spindle speed (rpm)—	8800
Cotton grade—	M or SLM	Efficiency—	90
Staple—	1 1/32"	Contraction—	6%
Spinning ring diameter—	2¼"	No. of spindles—	10,000
Front roll diameter—	1"	Work week (hr)—	120

A production cost of $0.50 per pound through spinning is adopted, and this includes cotton, labor, and overhead. The calculations:

1. $\frac{\text{Front roll speed (rpm)} \times \text{front roll circumference (inches)}}{36"} =$

Yards per minute delivered by front roll per spindle

Substituting:

$$\frac{140 \times 1" \times 3.1416}{36"} = 12.217 \text{ yd/min}$$

2. yd/wk = yd/min x min/hr x hr/wk x efficiency (%)

Substituting:

$$12.217 \times 60 \times 40 \times 0.90 = 26{,}388.00 \text{ yd/40-hr wk}$$

3. $\text{Hanks/wk at front roll} = \frac{\text{yd/wk}}{\text{yd/hank}}$

Substituting:

$$\frac{26{,}389.00}{840} = 31.415^{**}$$

The 31.415 hanks at the front roll will be produced for each spindle as long as the frame is running 40 hours per week at standard speed and efficiency. Of course, any change in speed or efficiency will change the hank figure.

To get the yarn count at the front roll, one must correct the yarn size as found on the bobbin:

4. $\frac{\text{Yarn size on bobbin}}{\text{1 - per cent contraction}} = \text{yarn count at front roll}$

Substituting:

$$\frac{20.00}{1 - 0.06} = 21.276$$

Thus, the spinning draft must be established to support a size of 21.276 at the front roll if the anticipated contraction is to give a final bobbin count of 20.00s. Next, we shall find the pounds of yarn produced per spindle per 40 hours, front roll counts:

5. $\frac{\text{Hanks per wk}}{\text{Hanks per pound}} = \text{pounds per spindle}$

Substituting:

$$\frac{31.414}{21.267} = 1.477$$

Thus the frame will produce at the front roll 1.476 pounds of yarn per spindle per 40 hours at standard speed, twist, and contraction.

Now, let us assume that a spinning department has been producing yarn that sized 19.75 instead of the standard 20.00 and look at what it is costing to do that.

By applying Formula 4, using 19.75 as the bobbin count, we find:

$$\frac{19.75}{1 - 0.06} = 21.01 \text{ (front roll count)}$$

Then, by applying Formula 5, we find:

$$\frac{31.415}{21.01} = 1.495 \text{ (lb/wk/spindle at front roll)}$$

The standard amount of stock that each spindle should produce is 1.467 pounds per week, but with the yarn count being only one-quarter of a count heavy

*Assistant Professor, A. French Textile School, Georgia Institute of Technology

**This is the usual hank clock reading

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Used for manufacturing and finishing where dye leveling, wetting penetration and detergency are required.

Made to meet the following specifications:

Active Ingredient	35.0% Min.
Alcohol (by wt.)	5.5%
Alcohol Insoluble	3.7%
Moisture	53.8%
Specific Gravity @ 25°C.	1.080

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A 100% Liquid Non-Ionic Surface Active Agent. For Use Where An Efficient, Economical Cleaning, Scouring, Wetting, Penetrating and Emulsifying Agent Is Needed.

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each spindle will produce 1.495 pounds per week.

The difference is only 1.495 - 1.467 or 0.028 pound, but when this difference is multiplied by the number of spindles in operation, 10,000 in this example, the difference becomes a significant one—280 pounds to be exact—in only one 40-hour shift. Three shifts per day will bring this figure to 840 pounds for 120 hours of running.

In the beginning we set up a cost figure of $0.50 per pound for the 20.00s yarn, with labor, cotton, and overhead included, as a standard. When we multiply the 840 pounds we lost in too-heavy yarn, we find we have poured $420 down the drain. At this rate, the losses for a 50-week year will reach $21,000 from that source.

As this article has been prepared by using a hypothetical mill as an example, the next question logically is: "How can this information be used by a mill spinning different counts and operating under different efficiencies?"

By using the short-formula approach, any plant equipped with hank clocks on its spinning frames can apply the system to any and all yarn counts. The short approach:

6. Hanks (from clock) x (1 - % contraction) = hanks on bobbin

7. $\frac{\text{Hanks on bobbin}}{\text{Actual count of yarn on bobbin}}$ = pounds per spindle

8. $\frac{\text{Hanks on bobbin}}{\text{Standard yarn count}}$ = standard pounds per spindle

The short or mill formula will give the same information given through Formula 5. The only difference is that instead of correcting the yarn count to equal the yarn at the front roll, the hanks produced at the front roll have been corrected to equal the hanks on the bobbin.

First heat-shaped dynel fabrics go on hi-fi speakers

■ THE FIRST commercial application of dynel heat-shaped fabrics (T. I. for July, 1958, p. 66) as a design component of a consumer product was reported recently by the Textile Fibers Department of Union Carbide Chemicals Co.

Woven dynel fabric, heat shaped and stiffened in a permanent three-dimensional design by vacuum molding, is now being used as a decorative acoustical cloth on high fidelity, stereophonic speaker units manufactured by the Audax Division of the Rek-O-Kut Co.

F. Schumacker & Co. reportedly developed the dynel cloth at its own mill, in consultation with the fiber producer's engineers. The fabric is close-pored before molding. As it is molded it is stretched to create larger openings in those areas which normally appear in partial shadow and at an angle to the eye. The result is a speaker cover that is both decorative and highly efficient in its sound dispersing ability.

Made only on special order, the fabrics are offered in a tweed-like look which is obtained by using black warp yarns and different colors of filling.

Get the most from V-belts by installing them properly

■ WHEN installing new V-belts, never force belts into the sheave with crowbars, wedges, screwdrivers, or similar tools, B. F. Goodrich Industrial Products Co. advises*. Prying the belt over the sheave flanges is one sure way to rupture the outer fabric cover and break the cords.

To properly install V-belts, this manufacturer recommends the following procedure:

1. Move driver unit toward driven machine so that belts may be placed in sheave grooves by hand. Time required to do this is well spent.

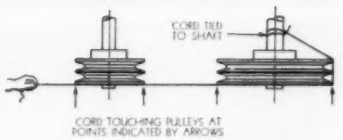
2. Work belt slack to top side of drive.

3. Move driver unit back into position, eliminating all belt sag.

4. Check sheave alignment (a method is described below).

5. Start unit and operate long enough to permit belts to properly seat in grooves.

6. Stop unit. Adjust centers as necessary until all belts have proper tension (see method below).



7. Review adjustment from 24 hours to 48 hours after drive is in operation. This is important, for new belts stretch slightly and seat in grooves before reaching their working lengths.

How to Check Sheave Alignment. First, make sure that drive shafts are parallel. Using the measuring tape, measure the distance between the shafts both at the outside of the sheave and at the inside of the sheave. Shafts that are parallel will be the same distance apart at both points.

Next, tie a string to the drive shaft as shown in an accompanying illustration and pull taut across the sheaves. If the sheaves are properly lined up, the string will touch them at points indicated by the arrows. By rotating each sheave through one-half revolution, you can also determine whether sheave is wobbly or the drive shaft is bent. If either of these conditions exists, the inner rim of the sheave will pull away from the string when the sheave is rotated.

How to Check for Proper Tension. With the drive stopped, proceed as follows:

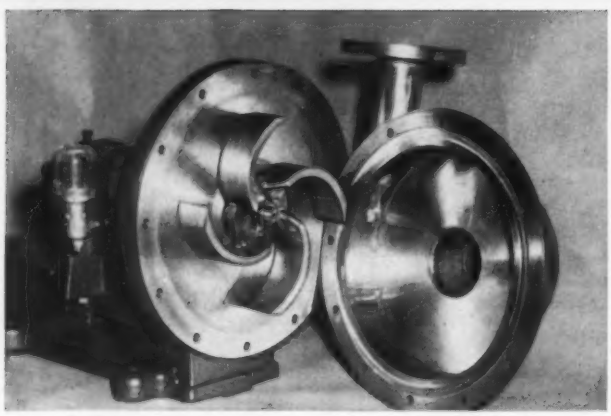
1. Find out the center-to-center distance between drive shafts.

2. Press belt firmly with thumb near midpoint.

A belt with correct tension will depress its own thickness for each 4-ft center-to-center distance. Example: If the center-to-center distance is 8 ft, a D-section belt which is ¾" thick should depress twice its thickness or 1½".

*In Catalog No. IP-1577 entitled "How to Get Longer Life from V-Belt Drives."

Stainless Steel assures pure matched whites



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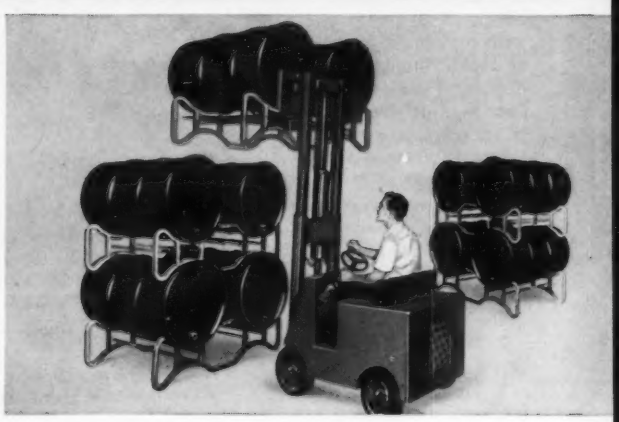

HERE IS ASSURANCE OF LOW-COST STACKING of steel drums. It is Republic's new Portable Drum Rack. These steel cradles each support two loaded 55-gallon drums. Pairs of drums can be stacked to any practical height. More in-use drums can be accommodated in less floor space than ever before. Standard fork-lift trucks can pick-up, move, and stack as many tiers of drums at one time as capacity permits. Shipped knocked down, with fasteners for quick and easy assembly. Republic Drum Racks are low in cost. Send for details.

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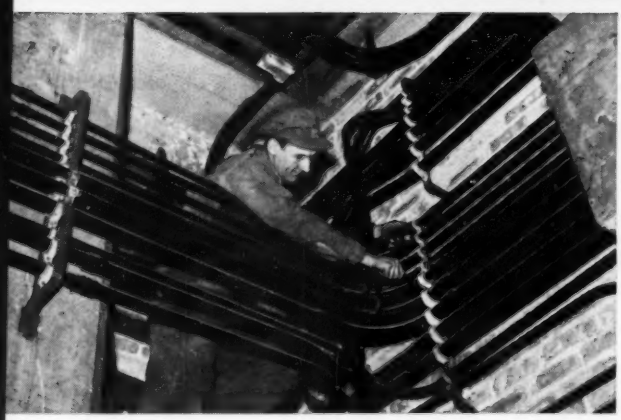

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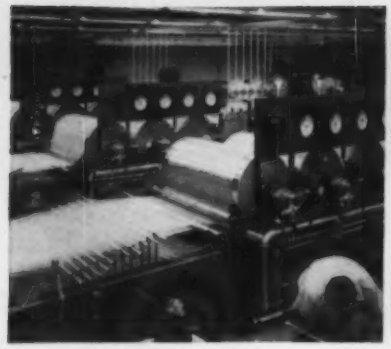
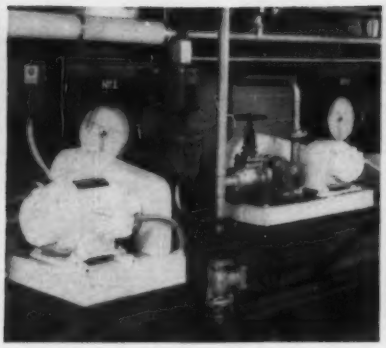
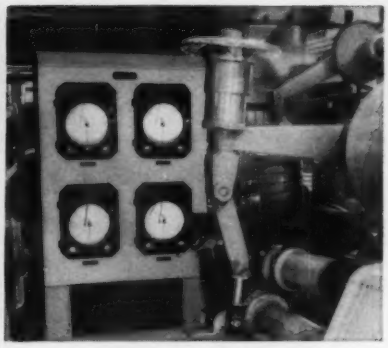


High Speed Slashing

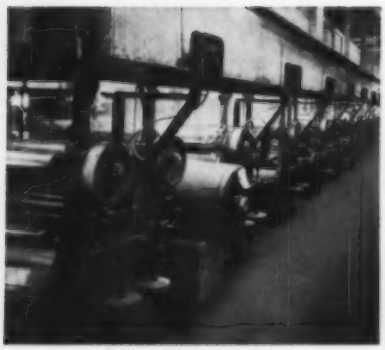


Size Cooking and Storage



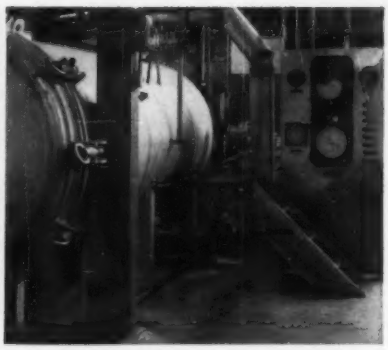
Mercerizing

Taylor CONTROLS LIKE THESE...



Dye Jig Operation

Package Dyeing



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Package Dyeing	Continuous Crabbing
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Skein Dyeing	Air Conditioning

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An 18-oz coating before (bottom) and after electrifying process.

FINISHER UPGRADES WOOLENS

New-old fiber-straightening process gives loftiness and silky hand to pile fabrics and face-finished woolens

by James H. Kennedy, Jr.
Professor Emeritus
Lowell Technological Institute

Exclusive

WOOLEN finishers, in their constant search for new effects that will upgrade existing constructions or produce unusual fabrics for special uses, have long been intrigued by the ancient sheepskin-finishing technique of vigorously brushing the fibers—first in one direction and then in the opposite direction— followed by passage of a hot iron over the tips of the fibers. The result was a product that was softer, more lustrous, and somewhat similar to fur in appearance and handling.

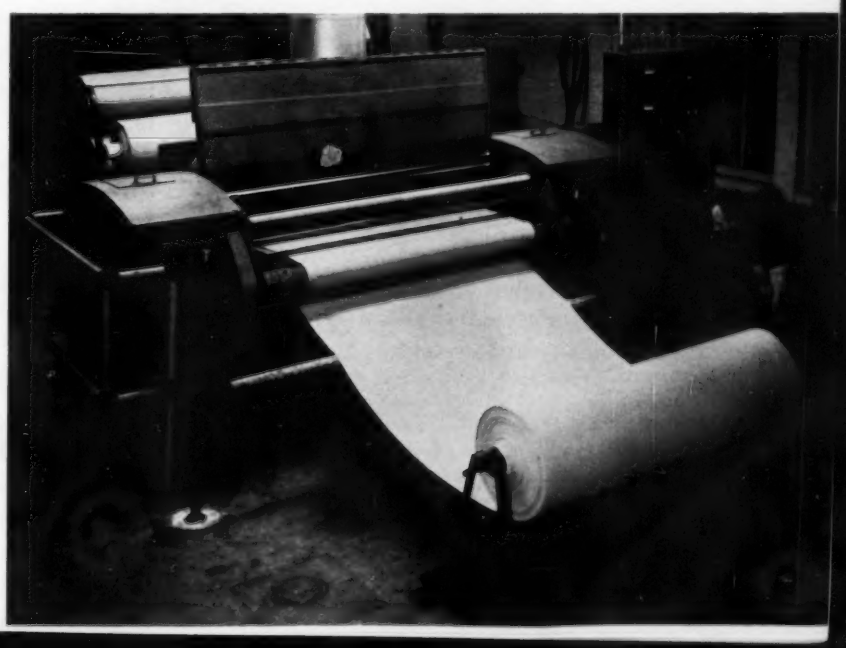
The recent growth in the high-pile industry of simulated-fur fabrics refocused finishers' attention on the need for an automatic and continuous machine operation to do what the finishers of sheepskins had done by hand.

Since no machine was commercially available, some mills built their own machines for electrifying—and with varying success. One of the many drawbacks of these machines was the inability to heat the cylinder evenly and at the desired temperature.

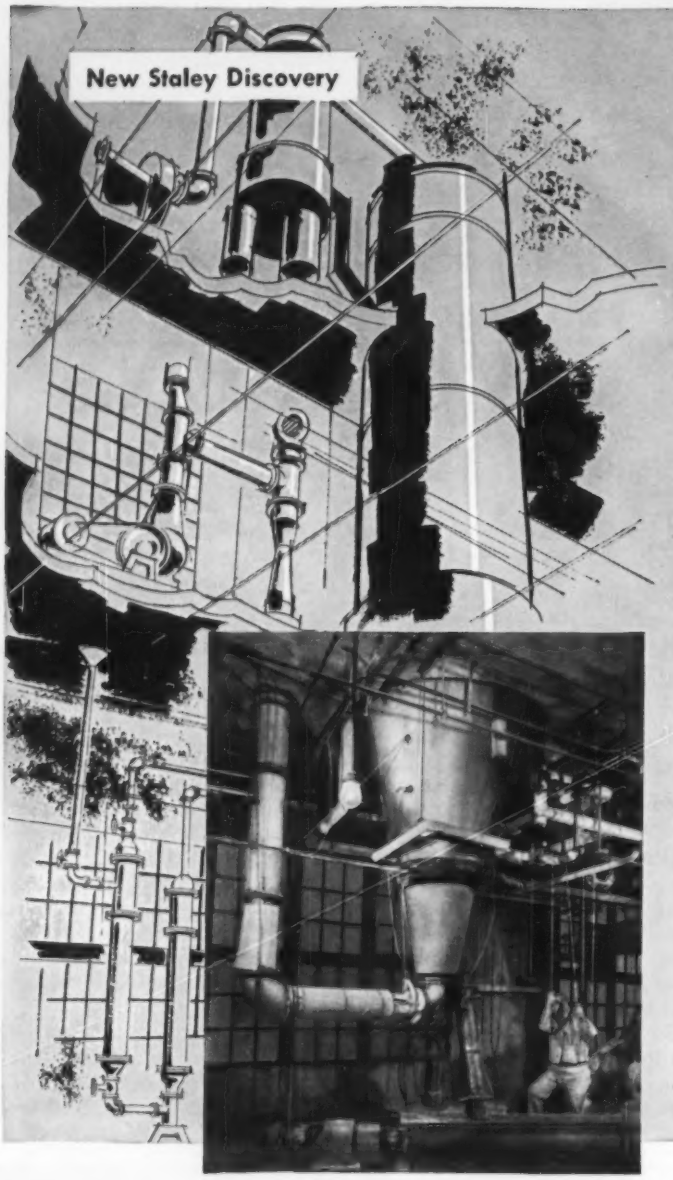
At this point the textile and mechanical engineers and machine designers of Turbo Machine Co. became interested in the problem, and the Electro-Finisher is the result of their applied research.

This new process—whether it be called polishing, ironing, or electrifying—results in a finish for pile or face-finished woolens that is new and entirely different. It does not replace any of the older woolen finishing operations (dry or wet brushing, teasel gigging, napping, etc.).

The Machine in Brief. The Electro-finisher consists basically of an electrically heated cylinder



Electro-Finisher in a New Hampshire woolen mill; the front cover is raised. Note railing put up by mill. Some mills use U-type feeding arrangement, inspect goods as fed.



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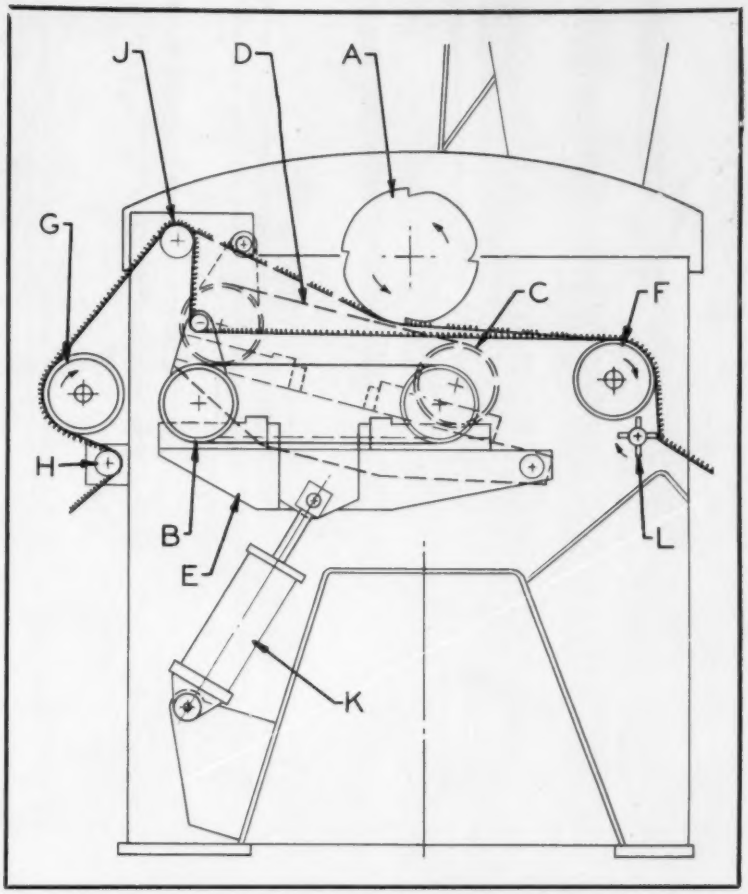
faced with special grooves set at varying angles. An endless-belt-type conveyor apron holds the fabric in contact with the cylinder, which revolves at high speed. The fabric is held under tension during the process by a pair of rolls covered with card clothing.

The high speed of the heated steel cylinder and the brushing action of the grooves in the cylinder, first in one direction and then in the other, plus the fact that a vacuum is probably set up between the recessed grooves and the face of the fabric, causes each fiber on the fabric surface to strain to stand up straight. The crimp that is in natural fibers is largely removed.

Then the heat and the brushing action of the edges of the specially designed grooves, plus the ironing action of the cylinder itself, result in each fiber being held straight out at its maximum extended length. This effect of the fibers straining and s t r e c h i n g to straighten themselves out and to stand erect, which can be seen very clearly through a stroboscope, makes the fabric have an unusually uniform and "different" appearance.

The Machine in Detail. The heart of the machine is the cylinder, with its specially designed grooves. The steel cylinder, 72 inches wide and 10.5 inches in diameter, is accurately made and carefully balanced to resist any tendency to lose its perfectly cylindrical shape. It will handle any woolen fabric up to 66 inches wide.

The cylinder is electrically heated by six heating elements spaced across the width of the roll and enclosed within it. The heating elements draw 30 kw and are thermostatically c o n t r o l l e d to maintain a preset temperature. Connected into the heaters are so-called "percentage interruptors," which are individually controlled and may be adjusted to have the heat on for any one hundredth part of a minute desired. For example, if the interruptor is set to read 63 on its respective dial, it means that for 63/100 of each minute that particular heating element is drawing current and the heat is on. Conversely, the current in that element is off for 100 minus 63 or 37/100 of each minute.



Schematic view of the Electro-Finisher: A—ironing cylinder; B—front cradle roller; C—rear cradle roller; D—cradle conveyor belt; E—cradle frame; F—rear carding roller; G—front carding roll; H—infeed bar; J—spreader bar; K—air cylinder; L—beater. Fabric contact with ironing cylinder is heart of the process. Conveyor belt in adjustable cradle frame holds fabric in contact with cylinder. Rolls covered with card clothing hold fabric taut during processing. Beater bar removes fabric from final wire-covered roll. Possible adjustments for varying effects on different fabrics: conveyor-belt speed, temperature and speed of ironing cylinder, arc of fabric contact with cylinder, moisture content of fabric.

Assuming a desired temperature across the roll for finishing woolens to be 400 F, the interruptors might be set as follows, from the left side to the right side*:

Zone 1 - 63
Zone 2 - 37
Zone 3 - 44
Zone 4 - 35
Zone 5 - 48
Zone 6 - 52

Note that the end zones (1 and 6) must draw more current to keep the roll uniformly at constant temperature, while the inner zones draw less current, as would be expected.

The cylinder should be kept rotating at all times when the heat is on, and up to 3 hours should be allowed for the cylinder to cool after current is shut off before its rotation is stopped. This prevents possible warping of the cylinder.

The main electrical control panel (see photograph) shows the pyrometric connections and heat zones. There are six pairs of light indicators (one pair for each heat zone). Heat zones 2-3-4-5 are at the top of panel, and the end heat zones 1 and 6 are separate and directly beneath.

A green light showing at the top indicator for any zone means that that zone is drawing current. A red light showing on the bottom indicator for any zone means that the heating element in this zone is not functioning properly and the

*As actually set in one mill.

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The value of pine oil in wet-processing as a penetrant and wetting agent is long established. However, perhaps you're not acquainted with the particular advantages of Yarmor 302W, a Hercules pine oil made specifically for the textile industry. Yarmor reagent is not just "pine oil"; it is specially processed to produce an extra high-grade product with the greatest wetting, penetrating and emulsifying ability. That's why so many people in the textile industry never just say "pine oil." They say Yarmor®.

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trouble should be corrected immediately. Usually it is found that a connection is loose or a fuse has blown. This red light under each zone makes it very easy for the electrician to trace and remedy the trouble and saves considerable maintenance time.

The bottom cabinet contains the fuses, relays, etc., and should be kept locked and should only be opened by the mill electrician, in that the voltage may be 220/440-550 V.

A 20-hp motor with triple multi-V-belts is used to drive the cylinder at a constant speed of 900 rpm. This drive guarantees against slipping or stalling of the cylinder regardless of the pressure load applied by the cradle.

At the right side of the machine, where the operator usually stands, there are push-button controls for starting or stopping the cylinder, the card-clothing-covered rolls for controlling the tension on the cloth and feeding it through the machine, and the suction fan for drawing away lint. The air valve assembly, cradle adjustment wheel, and back-card-clothing-covered cloth roll clutch assembly are also controlled and operated from this position.

The air valve assembly includes a water trap for any moisture that might be in the air line and an oiling device to feed oil into and lubricate the air cylinder. This cylinder operates the cradle, which in turn forces the endless conveyor apron and the fabric being processed in contact with the heated cylinder at the desired pressure.

At the right side of the front card-clothing-covered cloth roll and directly below it is a scale pointer assembly and adjusting knob for the cradle assembly. The scale is used as a reference point for the settings for different types of cloth. The operator can make notes of desired pressures for each type of cloth, for repeated runs. Knobs on both sides of the cradle assembly adjust slack in the conveyor belt.

Cloth speeds from 3 to 30 yards per minute are provided, and changes in cloth speeds may be made while machine is in operation by adjusting a Reeves motor drive control. Higher cloth speeds are available if desired.

Feeding the Machine. Some woolen mills have found it convenient and more efficient to make a special cloth truck to hold four or six rolls of fabric to be processed. The usual woolen finishing operations of shearing, steaming, and brushing are performed on the fabric. The fabric delivered from the brush is wound onto a shell that has previously had a leader wound onto it.

The rolls of cloth are then placed on the special truck and delivered to the electrifying machine for processing. The fabric is now sewn to the leader left in the machine from the preceding roll. Hence, when it runs through the Finisher it again leaves a leader in the machine for the next piece, and so on.

When starting the operation, if a leader is not in the machine, the following method of feeding a leader into it is recommended as a safety measure.

1. Have exhaust fan *off*.
2. Thread end of leader around back of draw bar and up in front of front card-clothing-covered cloth roll and over spreader bar.
3. Toss end of leader onto conveyor apron, and as soon as it goes under the cylinder turn *on* the exhaust fan for a few seconds. This will lift the end of the leader up, as it will tend to follow the air current.
4. Shut off fan and leader will now drop onto the back card-clothing-covered cloth roll and can be pulled through without any danger of operator putting his hand close to the cylinder, which is continuously revolving.

Operation in the Mill—Procedure for a ladies' 100% wool face-finished coating, stock dyed, 17-18 oz: The cylinder temperature is usually set in the range of 400 F - 425 F, although at least one mill is using a temperature of 500 F, with proper pressure and cloth speed.

The fabric may be given one or more runs through the machine. The contact of the cradle varies according to the fabric being run. In general, less contact is required for a lighter fabric or when pile is thinner. For the 18-oz fabric described above, the air pressure on the cradle apron to hold it against cylinder read 35 lb/sq in.

The pointer on the scale was set at 0.75 above zero to obtain the desired results on this fabric. Speed of fabric was approximately 10 yd/min and was obtained by set-

How It Works—Quotations from an Independent Research Lab Report

". . . moderate stress forces are applied [to the fibers] which tend to modify the crimp. The degree of modification of crimp is influenced by the amount of original crimp in the wool fibers as well as by the fiber diameter.

"Little or all of the crimp present in the fibers can be removed through control of the following variables: temperature, pressure, fabric speed, moisture content.

"The natural crimp in the wool fiber is due to the perfect ortho-para asymmetry of the protein molecules making up the fiber. It can be likened to a spring coiled in a helix, having both ends clamped. These molecules are held together by Van der Waal's forces, which can be broken down under influence of heat and moisture. During the processing of a woolen fabric through the finisher, these bonds are broken; and the mechanical action of the machine imposes sufficient force to straighten the fibers and remove their helices. The net effect . . . is to impart a degree of loftiness and a soft, silky hand to the face of the fabric. Further treatment of the fibers while in this condition (to break and reconstruct molecular structures chemically) adds to the permanence of the finish . . .

"In addition to the crimp effect, the mechanical action of the rotating serrated cylinder relieves stresses and strains in the base fabric structure itself, thus overcoming boardiness developed in previous wet and dry finishing processes.

"It is not believed that the electrostatic effects known to be imparted . . . have any material bearing on the character or quality of finish . . . on woolen fabrics. (These electrostatic effects undoubtedly do have a bearing on the nature of the finish imparted to synthetic hydrophobic-fiber fabrics.)"

A view of the Barber-Colman display at the American Textile Machinery Exhibition in 1954. The machine in the foreground is drawing-in a complicated stripe pattern.

BARBER COLMAN

ATLANTIC CITY, N. J.
MAY 23-27, 1960

It is not too early to plan...

Less than a year from now, the next great American Textile Machinery Exhibition will take place at Atlantic City, in the same huge Auditorium which has housed it on two previous occasions. *It is not too early now for you to start planning to be there.* Barber-Colman will, of course, be among the exhibitors — with operating examples of all the latest and most interesting models of Barber-Colman machines. You will find machines here that can improve the quality of your products, increase the efficiency of your manufacturing methods, and reduce your operating costs by significant amounts. You will have a chance to see these machines in actual operation demonstrating their capabilities on the yarns and goods for which they are designed. You will have a chance to talk with experienced men, who can discuss in detail the possible uses of Barber-Colman machines in your own mill. You will have a chance to ascertain the advantages and calculate the comparative costs of the new Barber-Colman ideas against your present methods. These valuable opportunities are planned for *your* benefit—so, start to plan *now* on being at Atlantic City next May.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U.S.A. MANCHESTER, ENGLAND MUNICH, GERMANY

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ting the Reeves drive at 3.5.

The fabric is fed into the machine with the pile running so that it will be brushed in the same direction by the cylinder.

After electrifying, the fabric is usually given a light shearing to trim off any long fibers. The remaining operations of tentering or sponging and final perching are carried out according to regular woolen mill procedure. The tentering and sponging are to insure that the fabric will hold its finish satisfactorily through the pressing in garment manufacturing. Some small part of the luster produced in the finisher is lessened in sponging, but the very soft hand remains the same.

The supervisor in charge of the finish of this fabric stated that the fabric had a hand comparable to what would be expected with two grades finer wool and that it had a soft, cashmere-like feel.

Another woolen mill stated that the finisher gives good results on stock-dyed face-finished fabrics with no yellowing of light colors and no harmful effect on any dark colors.

Maintenance. One woolen mill has found that it paid off to put up a 2-in. pipe railing guard at 1-ft and 3-ft heights close to the machine and on the front and both sides. This pipe railing guard does not interfere in any way with operating, adjusting, or repairing the machine; and it prevents damage to the machine by heavy cloth trucks (see photo).

One woolen mill felt that as a matter of safety it would be better for *one* operator to handle the machine. In order to make it possible for him to handle it efficiently a cloth winding drum was attached to the delivery side. When the fabric has started to wind on this drum, usually an operator is no longer needed at this back position but can return to his usual position in front of the controls.

In order that the operator can see how winding of the fabric is progressing without going to the back of the machine, an overhead mirror has been installed at such an angle that he can see the winding of the fabric on the drum from his regular position at the controls.

With the cylinder being operated at 400-425 F, the cylinder bearings should be oiled about once a day. Tydol No. 60 oil or equivalent is used.

The oil container in the air valve assembly line should be checked at least every shift to see that the oil is at the correct level and bubbling, indicating that it is being fed into the air cylinder which it lubricates.

The inside of the machine should be blown down with an air hose after every processing of about eight cuts. This is necessary to prevent lint and dirt from building up and later dropping onto the face of the fabric and causing an imperfection at that point. When blowing the machine down, the inside of the endless conveyor apron should also be cleaned or waste will build up and later cause streaks or other imperfections on the fabric.

The wells at left and right side of the cylinder likewise should be carefully blown out and cleaned of lint and flocks to prevent these from collecting on bearings and brushes.

All grease fittings should be filled once a week while three oil cups should be checked once every day and oil added as needed to keep supply up to level.

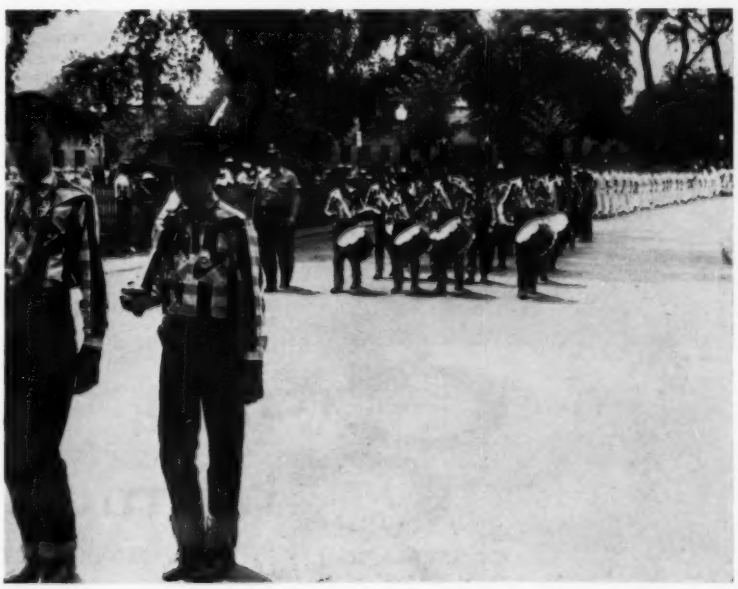
Denim in National Safety Parade

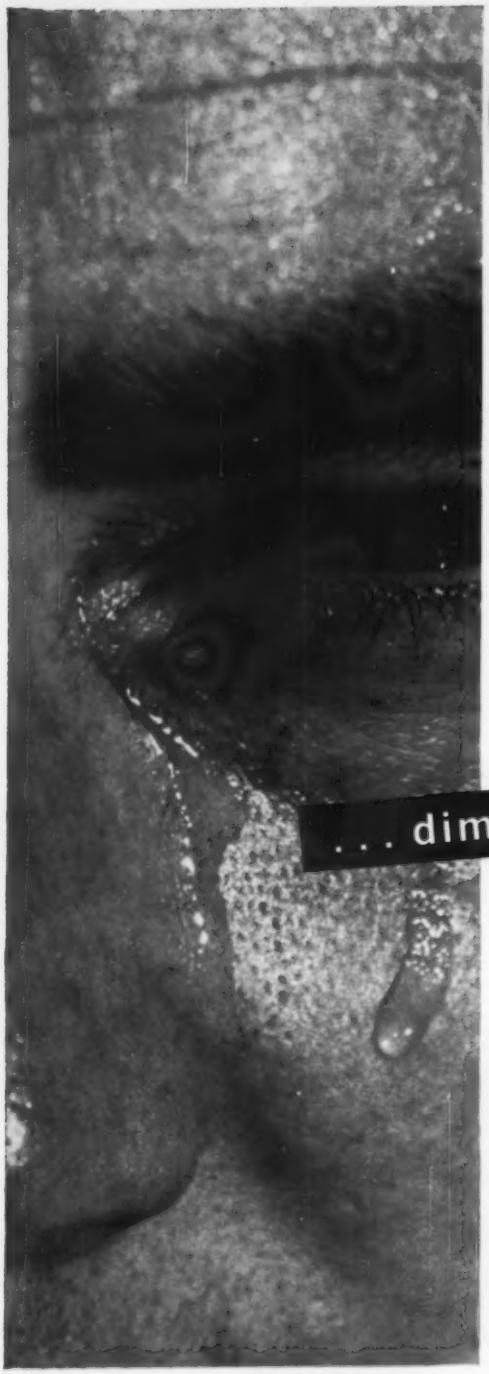
■ ARRAYED in uniforms including cowboy hats, plaid shirts, blue denim dungarees, cowboy boots, guns, and holsters, the Police-Optimist Drum and Bugle Corps of Rock Hill, S. C., participated in the National Safety Parade in Washington, D. C.

The corps at present has 40 members from the Rock Hill school safety patrol and includes boys ranging from 9 to 12 years of age. Sponsored by the Rock Hill Evening Optimist Club, the corps has participated in many events throughout the state of South Carolina.

The uniforms for the corps were donated by the Gold-Tex Fabrics Corp., with dungarees made of 13¾-ounce white-back denim.

Under the direction of Sergeant Bill Thomas of the Rock Hill Police Department, the corps is available for performances to civic clubs upon request.





CROWN'S NEW C-TRON

LOW FREE FORMALDEHYDE RESIN

. . . diminishes odor problems

often eliminates afterwash

While imparting high quality crease and shrink resistance, Crown's C-TRON resin solves formaldehyde odor-problems . . . both in the processing plant and in the finished fabric. Its extremely low free formaldehyde content has enabled many plants to eliminate the afterwash process entirely!

Crown's representatives will gladly give you complete details concerning the new C-TRON thermosetting resin including how it may solve any resin problems you may have involving deleterious effects upon light fastness of reactant type dyestuffs. Call your man from Crown — or write direct!

Crown Chemical

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Peterboro, N. H., Greensboro, N. C., Burlington, N. C., (Warehouse), Greenville, S. C., Ware Shoals, S. C.
IN CANADA: Marwin Dyestuff of Canada Ltd. IN SWITZERLAND: Bubeck & Dolder, Basle, Switzerland.

Henry A. Truslow of Ponemah Mills, retiring president of the Northern Textile Association, addresses members during the organization's 105th annual meeting. Seated at the speaker's table with Mr. Truslow are (l to r): George A. Dorr, Jr., of Dorr Woolen Co.; Roger Grimwade of Charlton Woolen Co.; William F. Sullivan, Jr., NTA president; Seabury Stanton of Berkshire Hathaway, Inc.,; and John F. Shaw of Chicopee Mfg. Corp.

Here's the output picture to 1970

The long-term decline in production should reverse before then, NTA told

Staff report

THE TEXTILE industry is now enjoying an upturn, the first since the long-term decline began during the recession of 1947-57. If production follows the traditional pattern, a down-turn will occur, possibly next year. But what of the long-term outlook?

Will the domestic textile industry share in the anticipated economic growth of the coming decade, in which population and income will rise appreciably?

These questions formed an introduction to a paper, "A Projection of Textile Production in the U.S. to 1970," presented by Dr. Wm. H. Miernyk, professor of economics of Northeastern University during the recent annual meeting of the Northern Textile Association at Wentworth - by - the - Sea, Portsmouth, N. H.

The paper was a brief summary of the results of a statistical projection of production in the broadwoven segment of the American textile industry. Although Dr. Miernyk emphasized that projections of production are difficult because the effects of international trade must be taken into account, it is important that they be made if management is to engage in successful long-term planning.

The projections were based upon careful analysis of trends in the American textile industry from 1947 through 1957, and of all of the known factors contributing to these trends. Future changes in all of the variables which will affect the domestic production of broadwoven fabrics were estimated for the period 1957 through 1970.

The projection was based on the following general assumptions:

1. That there will be no major war between now and 1970.

2. That there will be no fundamental change in the economic organization of the United States, or in our relations with other countries.

3. That there will be no major technological breakthrough in textiles which would revolutionize textile production. It is assumed, however, that there will be substantial increases in productivity between now and 1970.

4. That there will be no major change in our international trade policy between now and 1970. The assumption is made that textile imports will continue to rise, but that the rate of increase will be subject to some control.

The specific assumptions regarding the future production of broadwoven fabrics, and of employment trends, are based upon analysis of what has happened to the domestic textile industry since 1947. The critical variables which form the basis of the statistical projections to 1970 include: exports, imports, per capita consumption, production per worker, and population. The actual percentage changes in these critical variables for the period 1947-1957, and the assumed changes for the period 1957-1970, are summarized in Table I.

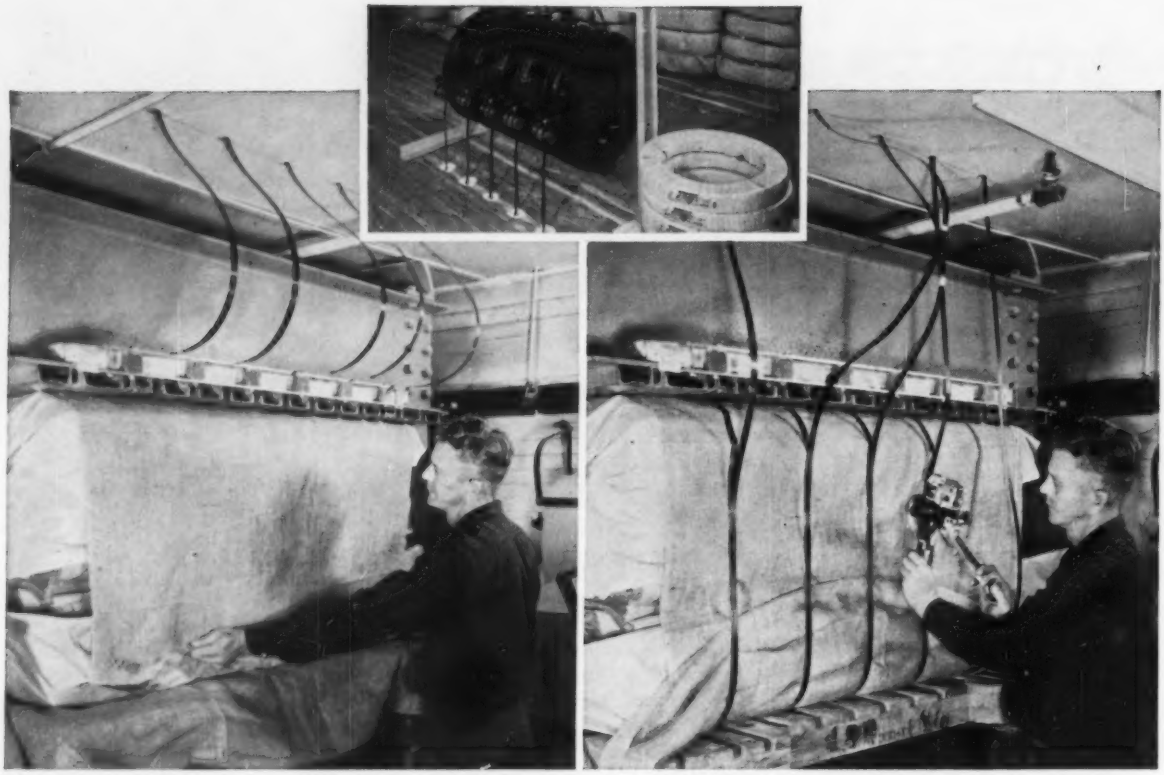
Continued on page 141

TABLE 1

Per Cent Changes in Critical Variables fo rthe United States*

Independent Variables	Actual 1947-1957	Assumed Changes, 1957-1970
Exports	—41.4	—22
Imports	+650	+349
Per Capita Consumption	—13.3	—7.1
Production per worker	+41	+62
Population	+19	+25
Dependent Variables		
Total textile employment	—24.2	—24
Broadwoven textile employment	—30.5	—32
Total domestic production	—2.2	+9.7

*All textile data relate to the broadwoven sector of the industry unless otherwise indicated.



Strapping is fed from dispensers in room above press (inset). A magnetized bar holds the straps in position while bale is readied.

Signode's exclusive Model SFC tool tensions the strapping, feeds seals from magazine, and crimps them. Straps are severed at the seal. No waste strap.

Signode way produces denser bales and reduces strap use by 17%

These before and after photographs show clearly the improved density and appearance of bales.

Here's an example of a simple and inexpensive answer to a packaging problem. Waste—which was part of the former cut-to-length strapping method—was eliminated, with a 17% saving in the amount of strapping used. Bales are better looking. Their increased density saves about 7% of valuable space in storage and shipment. The entire strapping operation is simplified, goes easier and faster.

Why not let a Signode man take a new look at your packaging and shipping operation. He has an eye for savings, specialized knowledge of textile applications, and a complete line of strapping tools and machines at his disposal. Call him today, or write:

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TABLE 2

Broadwoven Textile Production, Exports, Imports and Domestic Consumption 1957, and Projections to 1970
(in millions of linear yards unless otherwise shown)

Cotton	1957	1970	Per Cent Change
Domestic production	9,529.0	10,278.4	+7.9
Exports	468.3	354.6	—24.0
Imports*	104.7	454.2	+334.0
Domestic consumption	9,165.4	10,377.8	+13.2
Per capita consumption (linear yards)	53.5	48.8	—8.8
(Exports as of domestic production)	(4.9)	(3.4)	
Imports as % of domestic consumption)	(1.1)	(4.4)	
Man-made			
Domestic production	2,282.0	2,715.1	+19.0
Exports	146.2	126.8	—13.3
Imports	12.7	100.5	+694.0
Domestic consumption	2,148.4	2,689.9	+25.1
Per capita consumption (linear yards)	12.6	12.6	
(Exports as % of domestic production)	(6.4)	(4.7)	
(Imports as % of domestic consumption)	(0.6)	(3.7)	
Woolen and Worsted			
Domestic production	288.0	281.6	—2.2
Exports	.7	.4	—43.0
Imports	21.5	68.7	+219.0
Domestic consumption	308.9	349.9	+13.3
Per capita consumption (linear yards)	1.8	1.6	—9.4
(Exports as % of domestic production)	(0.2)	(0.1)	
(Imports as % of domestic consumption)	(7.0)	(19.6)	
All fabrics			
Domestic products	12,099.0	13,275.1	+9.7
Exports	615.1	481.8	—21.7
Imports	138.9	623.4	+349.0
Domestic consumption	11,622.8	13,416.7	+15.4
Per capita consumption (linear yards)	67.9	63.0	—7.1
(Exports as % of domestic production)	(5.1)	(3.6)	
(Imports as % of domestic consumption)	(1.2)	(4.6)	

*Countable cotton cloth

Projections by Type of Fabric. Specific projections for each of the three broad classifications of broadwoven fabrics are given in some detail in Table 2.

In expanding on his projections, Dr. Miernyk emphasized that they were only as good as the assumptions upon which they were based. The most controversial assumptions will be those dealing with exports, imports, and production per worker.

Increases in productivity are particularly difficult to project. However, Dr. Miernyk believed that technological changes will continue at a high rate, which together with automatic processes will lead to a substantial drop in employment. But the drop in employment will occur in a more orderly way than has been the case when mill liquidations occurred on a large scale.

One further important consequence of modernization and technological change will be a reduction in the labor content of textile manufacturing. This, Dr. Miernyk believed, will strengthen the competitive position of domestic textile mills vis-a-vis those operating in foreign countries with lower rates of pay.

Even if far less optimistic assumptions were made about future trends in imports, exports, and the per capita consumption of broadwoven fabrics, Dr. Miernyk stated, the odds still favor the conclusion that the long-term decline in textile production, which occurred between 1947 and 1957, will be reversed between now and 1970.

Senator Pastore Honored. Senator John O. Pastore of Rhode Island was the recipient of the Association's highest award, its Silver Medal.

Senator Pastore was selected for the honor for his contribution to the textile industry as chairman of the special sub-committee of the U. S. Senate Committee on Interstate and Foreign commerce which held hearings during 1958-59 on the problems confronting the textile industry.

New Officers. Elected chairman and president respectively were **Seabury Stanton** of Berkshire Hathaway, Inc., and **William F. Sullivan** of Belmont, Mass. Mr. Sullivan had been secretary and counsel for NTA.

Elected vice-presidents, to serve for one year, were **George A. Dorr, Jr.**, of Dorr Woolen Co. and **William F. Hubbard** of William Skinner & Sons.

Wool supplies 13% over 1958, Wool Bureau says

■ AVAILABLE supplies of wool at the opening of the 1959/60 auctions showed a sharp increase over figures for the past three seasons, according to the Wool Bureau.

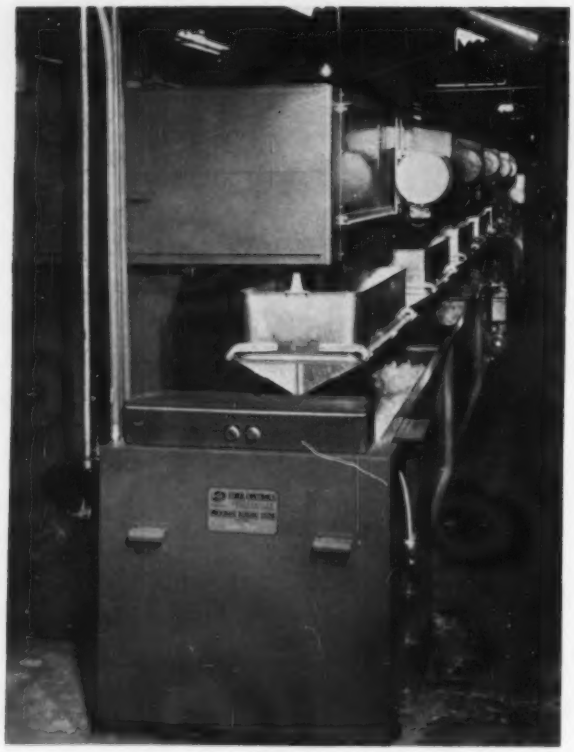
In its "World Wool Balance Sheet 1958/59 Estimated," the Bureau's Department of Economics and Statistics says this increase reflects the unexpectedly sharp rise in the Australian wool clip and the transfer to commercial ownership of large producers' carryovers in Argentina and Uruguay and of stabilization stocks in New Zealand and South Africa.

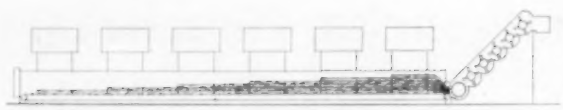
The total estimated supplies of 3,151 million pounds, clean basis, on July 1, 1959, were 13 per cent in excess of the 2,781 million available on July 1, 1958. However, if world wool consumption during 1959 should rise by the 14% gain over 1958 experienced by 10 major consuming countries during the first half of the year, commercial stocks would have to be drawn on to a significant extent—some 30 million pounds—the report says. It would result in the lowest level of world commercial stocks since the end of World War II.

This conclusion could be modified to some extent by a downward revision of the estimates of the Argentina, Australia, and New Zealand carryovers, which are the larger components of the total supply stocks. The remaining components are too small or not reported officially. Whatever the case may be, unless world consumption were to fall significantly below the estimate of 3,181 million pounds, the statistical position of wool during the remainder of 1959 should remain firm, according to the report.

BETTER COTTON BLENDING by WEIGHT CONTROL....

FIBER CONTROLS





The weighing type feeder has proven its worth in many mills blending synthetic staple fibers and synthetic - natural fibers.

Extend this important factor of weight control into the cotton opening room with a 100% SYNCHROMATIC BLENDING SYSTEM.

Consider these significant facts:

A. The production in *5 seconds of 6* conventional hoppers is *enough fiber for a yard of lap on each of 3 pickers.*

B. Each hopper pinned lifting apron during the 5 second interval will peel tufts *from the outside only* of the folded slab normally charged into the hopper.

C. The short term rate of stock flow — 5 second interval by 5 second interval — from a standard volumetric hopper *can vary 300% by weight.*

D. The combined output of six hoppers during *any 5 second interval moves as an integral mass* in an orderly, continuous progression through the cleaning equipment to the pickers.

The conclusion should be that the blend, yard by yard of picker lap, is fiber representation primarily *from 1 bale per hopper* or *from 6 bales* in this example; not a mix of the 20 to 40 bales that may be open on the floor.

Accordingly, if the yarn quality goal is count size uniformity and inch by inch evenness, why not use a more systematic approach to getting an equal number of fibers inch by inch of yarn.

Install the Synchromatic System based upon the physical property of fiber density (Micronaire Fineness) or, for example, the number of cotton fibers per ounce of stock.

1. Lay down bales of the same fiber fineness within $\frac{1}{2}$ point micronaire behind individual SYNCROFEEDERS: i.e., 3.0 to 3.4 at 1st feeder; 3.41 to 3.80 at 2nd feeder, reworkable waste behind on the next feeder, etc.

2. Combine weigh pan dumps, ounce by ounce, in an accurate sandwich on a slow moving horizontal . . . SYNCROVEYOR . . .

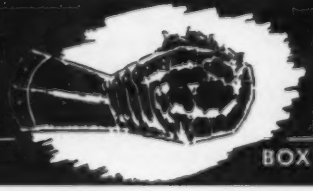
3. Cut vertical cross sections inch by inch through the sandwich with the fine pinned beater of the . . . SYNCROBLENDER . . .

The result from actual experience can be a 25% *reduction* in day to day variations, which means better yarn quality at higher plant efficiency.

No additional floor space, connected horsepower, or labor is required.

Write or contact us for further and more complete information.

U. S. Sales Agents: PARROTT and BALLENTINE, Inc., 3440 Augusta Road, Greenville, S. C.



FIBER CONTROLS CORPORATION

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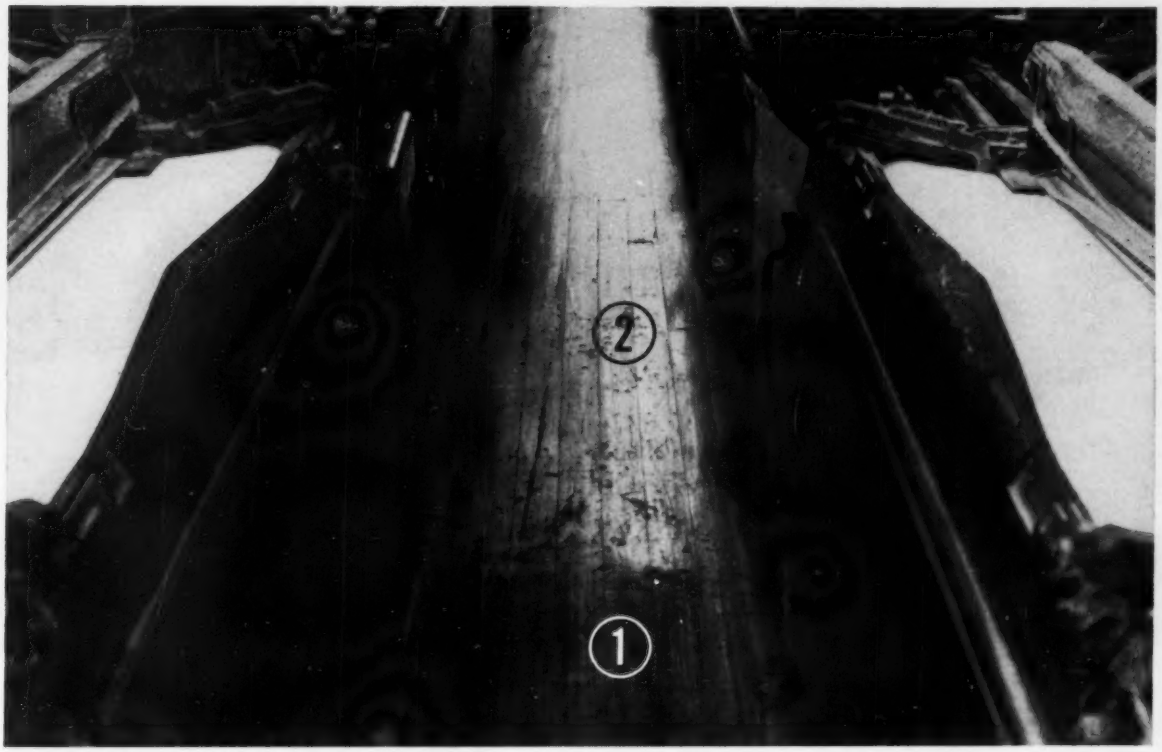
New varnish lasts 3 times longer

DU PONT TEXTILE FLOOR FINISH

Year-long test on this weave-room floor proves durability of new Du Pont Textile Floor Finish



Photograph of comparative test, courtesy of Dan River Mills, Inc., Danville, Va. After 12 months' round-the-clock service, area (1), finished with conventional first-grade floor varnish, shows severe wear. Area (2), coated at same time with new Du Pont Textile Floor Finish, has retained original high gloss.

Here's a completely new clear finish for interior wood or concrete floors. Especially floors subjected to heavy traffic. It is also recommended on stairs, doors, partitions, wherever a very tough elastic clear protective coating is desired. You can apply the first coat on an off-day morning, the second coat that afternoon and let full traffic back on it by midnight!

A single package oil-free urethane clear, it possesses wearability and protective characteristics not available in Alkyd, Phenolic or Epoxy floor varnishes. Its gloss is attractively high and lasts 3 times longer. Almost colorless when applied, it stays light and pale. Heavy coats do not wrinkle. For complete information, mail this coupon!

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Please send me, without obligation, Technical Bulletin 1003 on the new Du Pont Textile Floor Finish.

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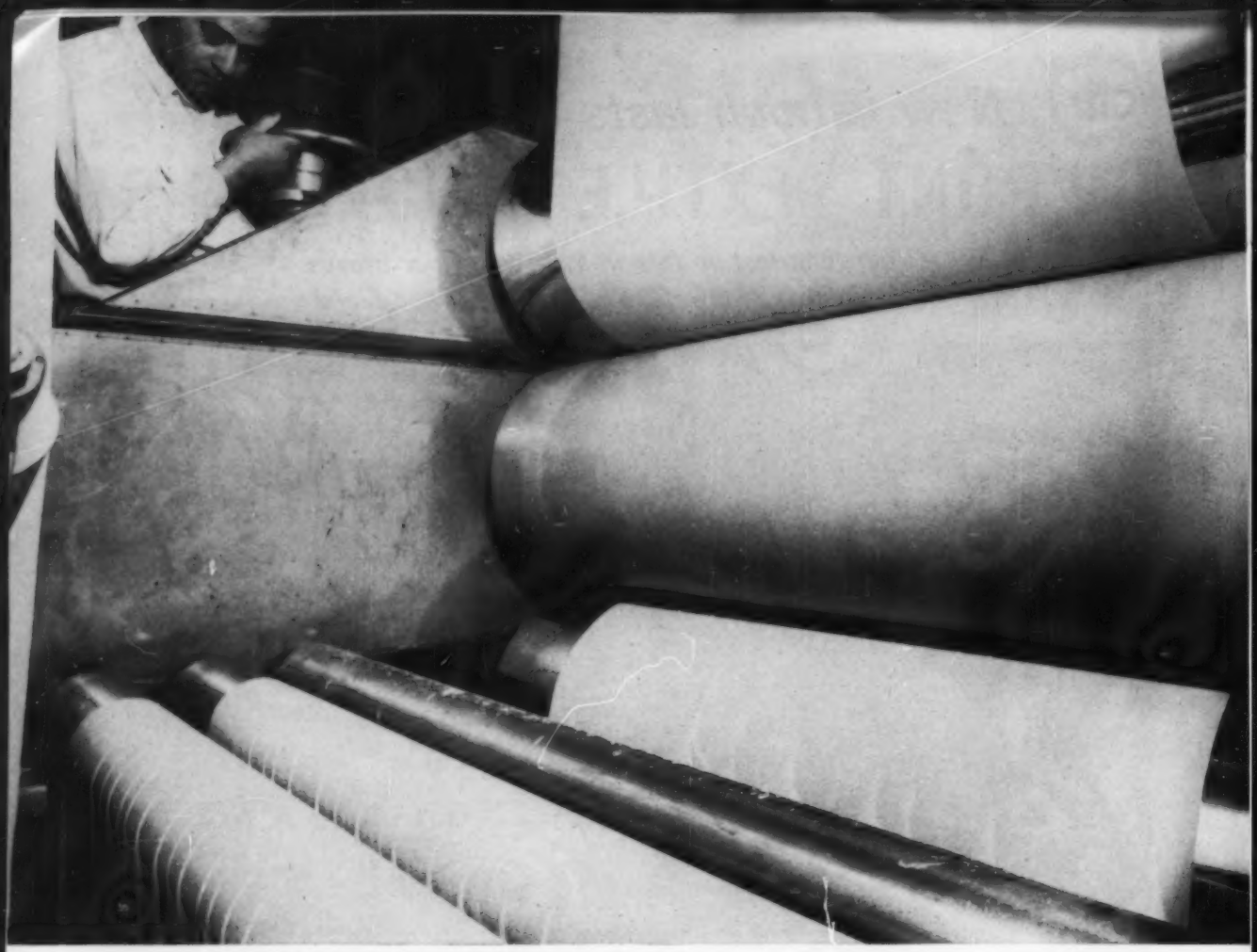


Stainless Steel cuts product rejections 100%

AT JOSEPH BANCROFT & SONS, WILMINGTON, DELAWARE

"We bleach, dye, and mercerize fabrics in this plant," says Mr. James E. Dooley, Chief Engineer at Bancroft & Sons. "We use highly corrosive agents—sodium chloride, sulfuric acids, sodium sulfates, peroxides and a few more. These chemicals ate into the metal on our old equipment. They left a rough, abrasive surface that occasionally shredded the fabric. And because the surface was so pitted and irregular, it was almost impossible to clean it thoroughly; dirt accumulated and got into the material. Naturally, stained or torn fabrics were rejected.

"We solved the problem when we installed Stainless Steel. Stainless equipment resists corrosion and retains a smooth, mirror-like finish that is easy to keep clean. With Stainless Steel we've had absolutely no corrosion and no shredding of the fabric. We've completely eliminated product rejections.

"We paid a little more for Stainless Steel, but now we've more than made up the additional cost. The Stainless Steel wears so well—we expect at least 20 years' service—that we've already cut replacement costs 60%."

End product rejections in *your* plant. Build and repair your equipment with Stainless Steel. USS Stainless Steel is available through your U. S. Steel representative or your local Steel Service Center.

USS is a registered trademark

United States Steel Corporation – Pittsburgh
American Steel & Wire – Cleveland
National Tube – Pittsburgh
Columbia-Geneva Steel – San Francisco
Tennessee Coal & Iron – Fairfield, Alabama
United States Steel Supply – Steel Service Centers
United States Steel Export Company

USS United States Steel

KNITTING SECTION

33 tips for running ARA-400's

based on experience in a North Carolina mill

Staff prepared Exclusive

FOUR YEARS ago, O. D. Helms, president of Yanceyville Knitting Mills, could hardly distinguish one circular knitting machine from another. At that time he got interested in the manufacture of children's hose; and upon studying the equipment available for making these goods without a hand-transfer operation, Mr. Helms elected to equip his mill with ARA-400 circular knitting machines fitted with clippers for nylon double sole yarn.

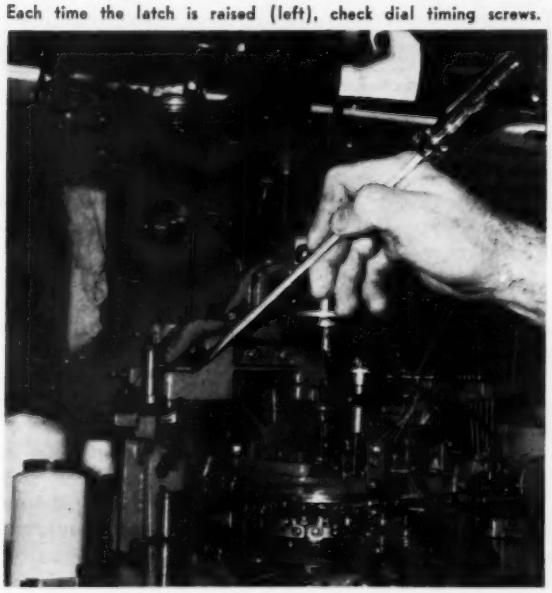
According to Mr. Helms, these machines were easy to get into production, and his mill now produces a range of constructions that include plain stitch, double sole, and high heel types, as well as mercerized goods, all in children's and misses' socks.

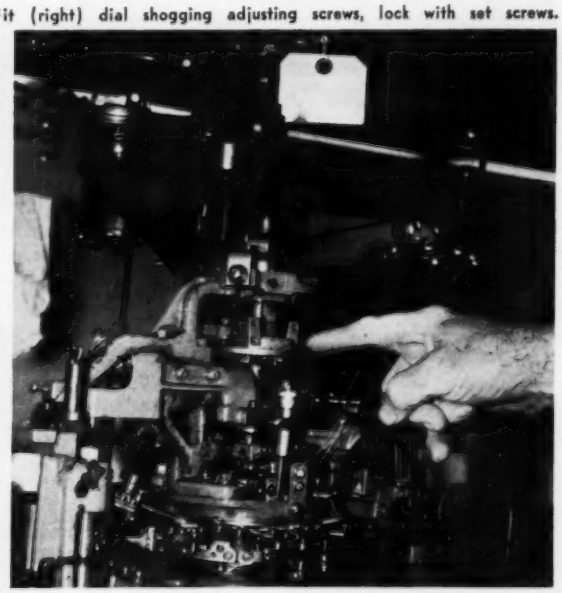
This mill operates 32 ARA machines, and plans call for the installation of 16 additional machines soon. Each knitter tends 16 machines, which knit at a speed of 178 courses per minute, and average production for all of the machines is about 1800 dozens per week. All production is sold in the grey in this instance.

Hand-transfer goods cost about 22 cents per dozen more to make, and an operator is required for every five hand-transfer machines in production, according to Mr. Helms.

Upon getting his machines into

Each time the latch is raised (left), check dial timing screws. Fit (right) dial shogging adjusting screws, lock with set screws.





To prevent welt distortion, turn small-size socks on a post or a rod, and at all times remember to keep the motions smooth and easy.

production he found that first class operators are required, and that the machines can't be tampered with. Good fixers are a must because the machines have fine adjustments to be maintained. So, a program for training fixers is in force. The yarns used include 70/2 stretch nylon, 60/1 CPM, 30/2 CPM, 36/2 CPM, 40/2 CPM, and gassed lisle twist.

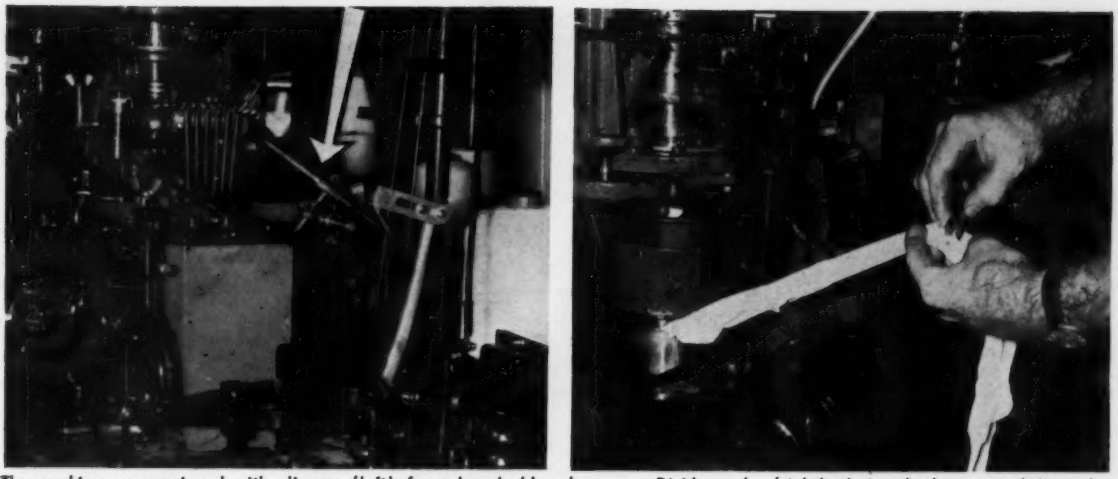
Some of the outstanding features of the ARA-400 machine and contributing to its popularity, are:

1. True rib (latch needle) product.
2. Individually adjustable coneflex dial drive gears.
3. Floating bed plate gear adjustment.
4. Adaptability to cotton or stretch yarn constructions.
5. Slow speed mechanism to control dial action.
6. Dial action individually controlled with separate drum.
7. Fabric take up.
8. Independent welt and transfer control.
9. Two sensitive electric stop motions.
10. Nine individual stitch control mechanisms.
11. Spring clutch for wider main drum range.
12. Heel and toe tipping arrangement.
13. Full round looping line.
14. Picot arrangement for fancy welts.

The standard cylinder size requires only one size part applicable to all machines of this model, whether they are required to produce infant socks in size 4 on the 132-needle or size 4 on the 200-needle cylinder.

Operation and Upkeep. One of the basic requirements for successful operation of the machine in production is proper lubrication.

In further basic maintenance it



The machines are equipped with clippers (left) for nylon double-sole yarns. Divide socks (right) during heel or toe knit cycles.

is desirable to:

1. Train operators to separate the socks while the machine is knitting the heel or toe. Otherwise the machine will have to be stopped, which will cause a drastic loss in production.

Furthermore, the machine is geared to slow speed while the dial cams are either put into or removed from action. This slower speed is necessary to allow a safe dial action.

Should the machine be stopped and put into high speed while dial cams are in action, it is likely to smash because the camming on the 1 x 1 drum and timing is purposely set for this slower, safe speed.

2. Keep the cylinder needle latch opener properly adjusted. This is used to open the latches of the inactive cylinder needles at the start of the transfer operation, and proper setting of this member will eliminate some of the dropped stitch trouble that can occur if it is not properly adjusted. Its setting should open the latches of the cylinder needles at the point where the front needle raise cam raises the needle to its highest point to its normal level.

3. Align any needles replaced, for needle alignment is important on any machine and much more so on an automatic machine. Needles out of alignment can cause gore holes, dropped stitches, cuts in fabric, streaks, holes, missed yarn laps, smash-ups, loops, needle breakage, etc.

4. Set dial needle latch closer to close all dial needle latches while transferring, and it should not be set close enough to trap latches on the cylinder needles while transferring or switching needles up in heel and toe.

5. Keep the machinery clean for better operation and speedier adjustment.

6. Thread the machine according to instructions. The threading diagram is specifically printed to produce uniformity of threading of all machines in a set. This uniformity greatly aids the fixer in locating any trouble; it helps the knitters, as it allows them to become accustomed to watching and trying on proper weight yarns better by being able to locate them uniformly on machine.

7. The machine should be thoroughly checked for loose screws after the first 36 hours of operation (the complexity of a knitting machine requires this). This enables the mechanic to reset or tighten any adjustments that have changed due to shipping or settling that takes place in the machine. This run-in, or settling, period is a process common to all complicated mechanical devices.

Machine builders also commonly work to a 0.002″ tolerance on all moving or working parts. Anything closer than this 0.002″ tolerance would increase the price of the machine drastically and would also create a fixing problem requiring special tools and special training to maintain. Hence the need of a recheck and adjustment may be required after this period of time.

The practice of "blocking" yarns can lead to variations in size, is discouraged.

8. Check dial timing screws each time latch ring is raised. The dial is timed to the cylinder through a series of gears and connecting shafts which must stay in proper timing. This connection between the dial and cylinder is broken every time the latch ring is raised and the timing screws at the joint should be aligned each time the latch ring is lower to prevent smash-ups.

9. Keep the dial fitted snugly to the dial cap or plate. The short butt dial needles are of necessity rather short and the dial cap must

According to President Helms, the machines were easy to get into production.

set snugly to the dial to provide ample surface on the dial cams for the short needles. By keeping the dial fitted snugly, the dial needles are supported in a level position, which aids greatly in the knitting process and the operation of the dial in general.

10. Latch the toe pocket pusher before raising latch ring. The toe pocket pusher is provided to put tension on the fabric after knitting the toe to the point where enough fabric has been run in the next sock to produce an even pull on fabric by the take-up.

This member can and must be locked out of action before raising the latch ring to prevent damage to the three needle points and the inside sinker holder ring which will be damaged on contact when not locked out of action.

It must also be unlatched while knitting to provide the proper amount of tension on the fabric. If this member is not allowed to perform its function, either by being locked out of action or by faulty adjustment (which includes broken or blunted points), loading the dial will prove disastrous.

11. Release the pocket pusher before starting machine. (See above.)

12. Check chain for tight links; links that are distorted or bind where they are hinged together should be replaced to prevent wrong kicks (and the consequent smash-ups) on the main drum. Edges of the kicking lugs on the links should be rounded to prevent them from striking teeth on main ratchet and thereby causing the main drum to kick wrongly.

13. Exercise extreme care in racking chain while machine is making rib portion of stocking. The auxiliary drum on the left side of pattern shaft provides an independent control for the rib action. This drum, of course, is timed with the rest of the machine. The moves of the main pattern shaft activate this drum. An idling mechanism provides a means for stopping it.

Should the chain be manually racked over while the rib drum or 1 x 1 drum is in action, other movements of timing will not occur properly, resulting in smash-ups.

14. Keep the fabric take-up in good working condition. It must keep a firm, steady pull on the rib fabric at all times. This is necessary due to the absence of any sinker or stitch holding members for dial stitch. This pull or pressure actually provides the means for casting and forming stitch on the dial needles.

15. Check needle alignment on both dial and cylinder needles if dropped stitches occur — needle alignment is very important on any machine.

An automatic machine naturally requires greater care, for as the machine changes the stitch from one set of needles to another, each needle member must be in close proportion to its alternate to allow for this close transfer without dropping stitches.

16. Top yarn should be relieved of all tension and loose stitch drawn at transfer. This is done to permit drawing a loose stitch on the last course of rib fabric before transfer—necessary because the dial stitch must be loose to allow the dial needles to bring stitch over onto the cylinder needle without bursting.

17. Transfer loose course should be considerably looser than regular stitch adjust fashion plunger to allow cam plate to drop 1/32 inch. This action takes place on the same move as the tension opening device to allow for a loose stitch on both needle frames.

Unless the stitch is loosened on both cylinder and dial frames, the dial stitch would have to be loose enough to accommodate transfer. This would produce unsightly appearance of transfer and also would be very difficult to adjust without cutting holes in fabric.

18. Streaks in rib fabric can be caused by bad latches, rolled or straightened hooks, or bent needles in either the dial or cylinder. Streaks in rib fabric can occur in either the cylinder or dial frame stitches.

Stiff latches, rolled hooks, improper friction, bad alignment, loose latch, spread hooks, bent sinker ribs, tight sinkers, sinker cap not advanced in rib portion, dial stitch drawn either too late or early, burrs on edge of dial needle butt, or needles either excessively tight or loose, can individually or in combination cause streaks in rib fabric.

19. Dial shogging adjustment screws should be snugly fitted and locked with the set screw. Dial shog mechanism must be fitted carefully to preserve the setting of dial making rib fabric welt and transfer. After an adjustment has been made on the dial shogging and setting mechanism, this mechanism should be checked before rib action is again started on next stocking. This precaution will assure the fixer of trouble free operation of this mechanism at either the welt, rib, or transfer. If shogging screws are set too closely, the mechanism will bind the dial while in transfer position, which is apt to cause broken needles, bad welts, and dropped stitches in transfer.

20. Check shogging mechanism for free operation after each adjustment. This should be done when no fabric is on dial.

21. Needle oil should not be too thin as the capillary action of the oil will close latches and cause welt mends.

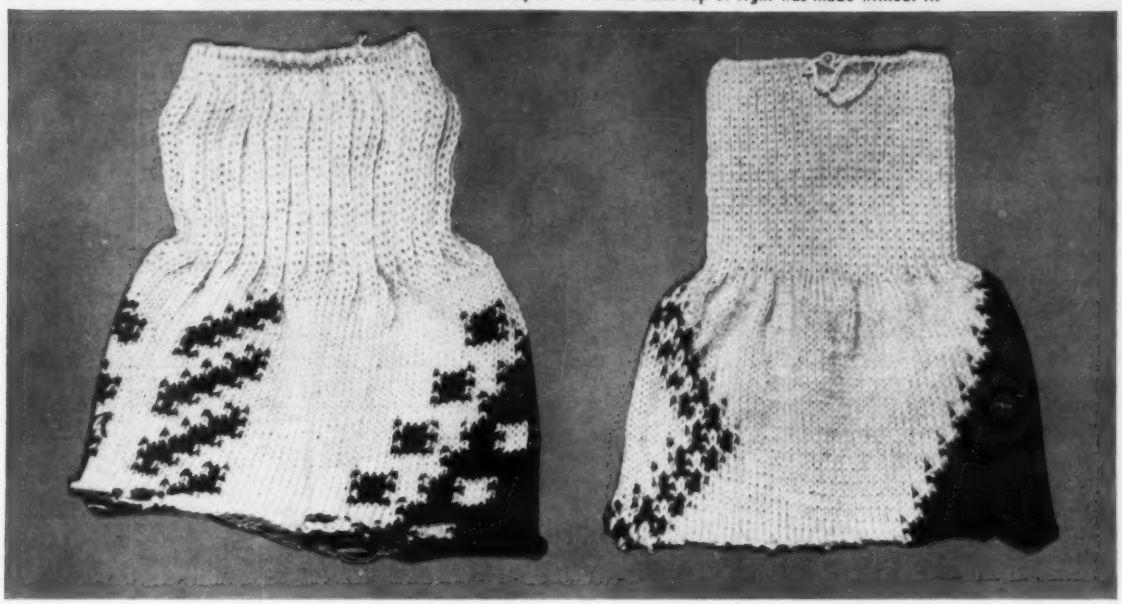
22. Keep brushes clean and free of oil and lint. Oil is easily absorbed in lint (as the lint collects oil also accumulates in the lint), producing sticky latches and oil streaks in fabric and faulty welts.

23. Stop motions should be kept closely adjusted and set close to the fabric. Stop motions that are not kept in good repair and closely adjusted and periodically checked should be removed.

If not kept in good condition they can give operators a sense of false security which will be disasterous. Stop motions are very worthwhile on any automatic

Continued on page 150

The cutter was utilized to make the sock top shown at the left. Top at right was made without it.



Are tops ruining your socks' appeal?

This mill man licked the rough, raveling top problem with a device that automatically cuts lead yarn after needles take control,

by Winston Shewmake
Exclusive

A COMMON and prevalent complaint from hosiery buyers in the seamless fancy trade, as well as from the consumer, has been related to rough, running, puckered, or raveling elastic tops. Especially is this true of the make-up or of the first several courses in the knitted elastic top. This trouble can now be eliminated with a very simple yarn cutting device which severs the lead yarn in the top and provides a 100 per cent smooth, nonrunning, nonraveling, nonpuckered top.

The conditions out of which these tops arise can be explained thusly: On a circular knitting machine which has no provision for an internal trimmer and binder, such as the S.C.P. and S.C.O.P., the knitting yarns will wind into a heavy cord or rope as they pass down the cylinder and through the fabric take-up rolls. This cord connects each sock and continues to pull between each sock.

After a sock has been knitted and pressed off, another sock is started by entering a yarn for knitting the elastic top. It is this lead yarn that supplies the trouble of bad tops, since the connecting cord is pulling it downward through the fabric take-up rolls. As the first several courses are knitted on the needles, the fabric take-up rolls pull the lead yarn severely.

This pulling is an absolute necessity if the other yarns are not to misfeed as they enter the sock leg for pattern purposes, aided by means of a yarn press. (See TI for November, 1957, pp. 177-179.) However, it is not necessary to pull the lead yarn after it has entered the sock for knitting and the needles have control of it. To do so will pull together the knitted loops in the first few courses of the top. Often this severe pulling will break the lead yarn back within the knitted loops, and of course a bad top is the result.

This fault has been overlooked by many manufacturers for years in that it can be covered up usually with the top rider or printed label folded over and glued to the top. However, it is a very discouraged consumer who removes this rider only to find a faulty top.

The device described herein is simple, inexpensive, easy to install and to operate, is fully automatic, and is rigid in construction.

In Figure 1 it is shown as a cutting blade (2) made from an injector-type razor blade, mounted on a finger (7) made from ⅜" x ⅛" cold rolled steel, and pivoted from a bracket (5) mounted onto the carrier ring by means of screw (6).

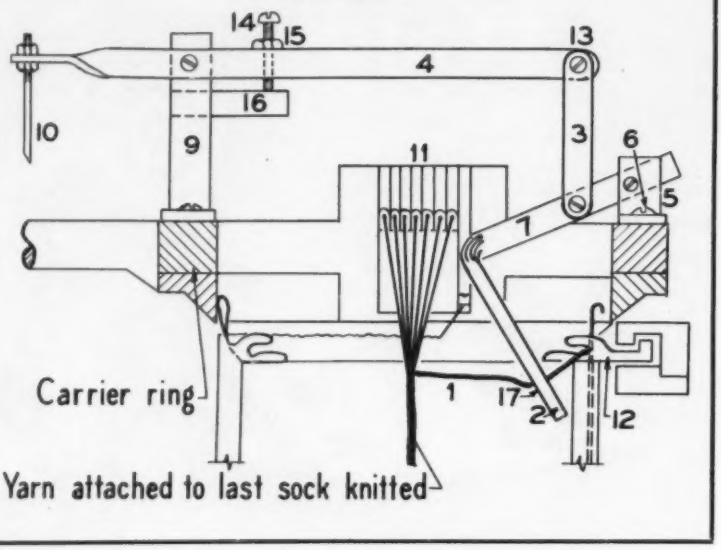
This finger is actuated by main control drum rotation and a cam thereon that moves rod (10), which in turn moves lever (4)

and connection (3) up and/or down, positioning the knife above, in front of, and below the level of the sinkers (12).

The positions of finger (7) and blade (2) are determined by an adjusting screw (14) that passes through lever (4) and is locked by nut (15) to come to rest on stop (16), which is mounted on a stationary bracket (9).

As a lead yarn (1) or the top body yarn enters the needles for knitting and circles the cylinder circumference by blade (2), it is severed at that point by the blade cutting edge as indicated by arrow (17), thereby eliminating any further pulling and puckering by that yarn of the make-up courses of the top. Blade (2) and lever (7) are taken out of action immediately after this operation and are not re-entered until desired.

FIGURE 1



33 operating-fixing tips *(from page 148)*

equipment but only so long as they are properly kept up. They must stop the machine in case of mishap but also allow the machine to perform its functions properly. Otherwise, they are useless and serve no purpose.

24. Fabric must always be in the take-up before starting rib.

25. Blocking the yarns is not considered a safe practice and causes size variations. Blocking yarns is quite unnecessary in the first place because any two-pound package of mercerized yarn adaptable to this machine will run at least 8 hours.

Blocked yarns tend to make operators less observant of machine operation, thereby overlooking some of the other things they must see and report. Blocked yarns, unless real good care is taken, will fall on floor, causing machines to press off. Pounds of good yarn are spoiled with oil from floor.

26. Oiling a bearing that is running hot will cause it to sieze. Stop machine and let bearing cool before oiling.

27. Pile tucking or picoting more than four courses overloads needle hooks and causes trouble. Pile tucking in picot edge can only be done safely if the tucked courses do not load the needle wale so tightly that the adjacent wales cannot absorb the bulk of the piled yarn. Cuts in picoted stitches will occur if more than four courses are tucked.

28. Keep oil away from slow speed drive belt to prevent its deterioration.

29. All dial cam operating levers and their connections should be kept tightly adjusted. If these adjustments are checked and connections kept tight, the dial ribbing cams will operate freely and satisfactorily. To operate in this manner they must go into action at proper time, plunge to the proper depth to take the dial needle butts, and disengage in the same free manner. Otherwise broken needles and smashes will occur.

30. Speed not to exceed 190 rpm.

31. Dial and cylinder rib stitch should be balanced, and adjustments are provided for this. Stitch adjustments for cylinder and dial frames are provided, each being manual.

The cylinder stitch is adjusted from the auxiliary fashion cam assembly attached to the 1 x 1 rib drum. The dial stitch is adjusted with a screw on dial cap plate near the binder. Loosening and moving the screw in will loosen dial stitch; moving the screw out has the opposite effect. Best results can be obtained on this machine if the dial stitch is very slightly looser than cylinder stitch.

32. Small size socks should be turned on a rod or post to prevent distortion of welt. Due to the time element involved, knitters sometimes do not do this carefully. Most knitters have been taught to turn from the top to prevent looping line distortion. If hurried, jerky turning is done the welt is ruined, thereby causing an otherwise good sock to be spoiled. Care must be exercised in handling this sock throughout the finishing process.

Are you up-to-date on knitting equipment?

For the latest developments, see "What was new at Milan" (pages 83-97) and "New Product Parade" (pages 165-181).

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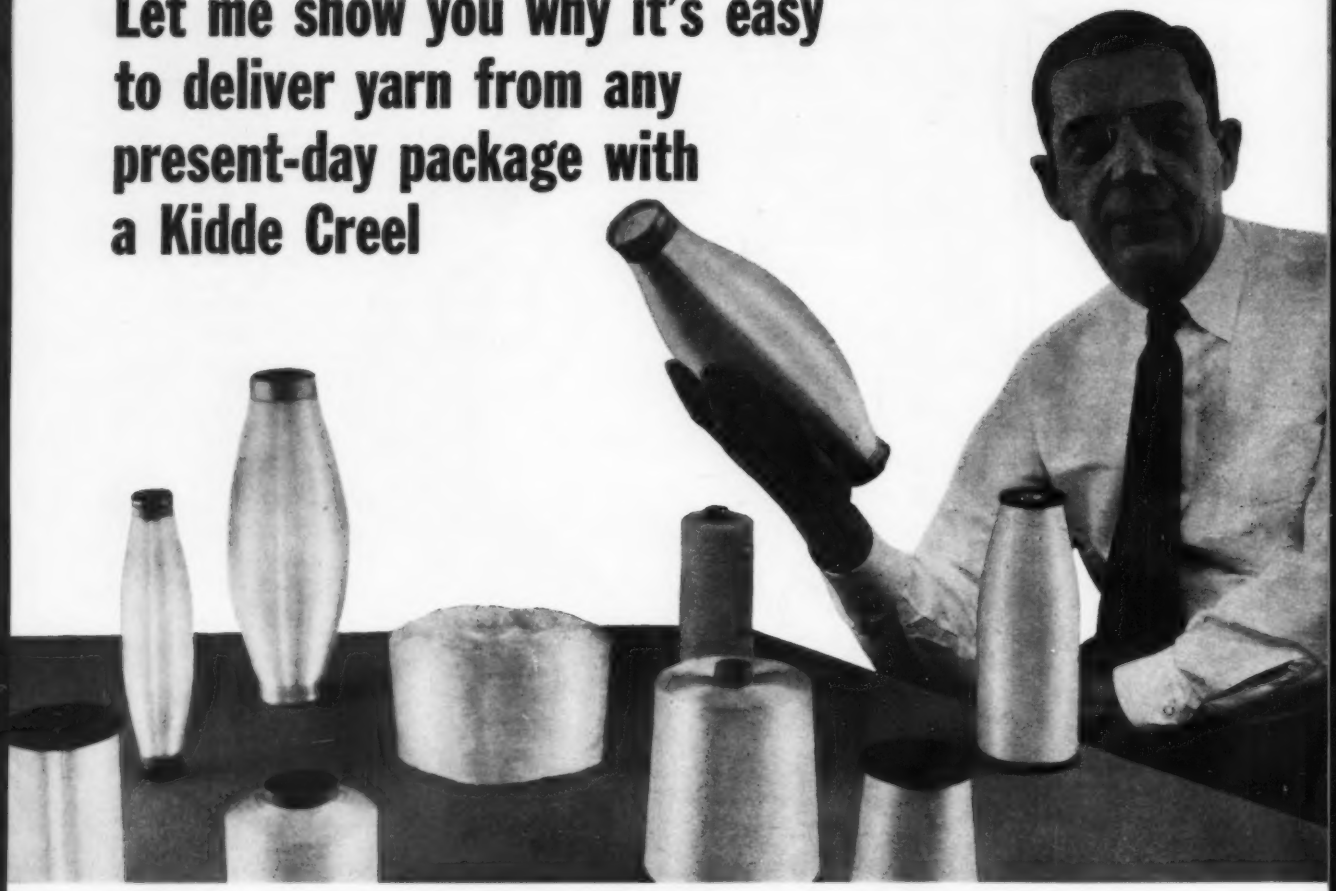
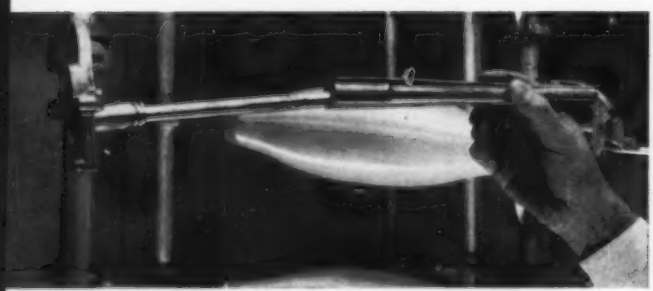
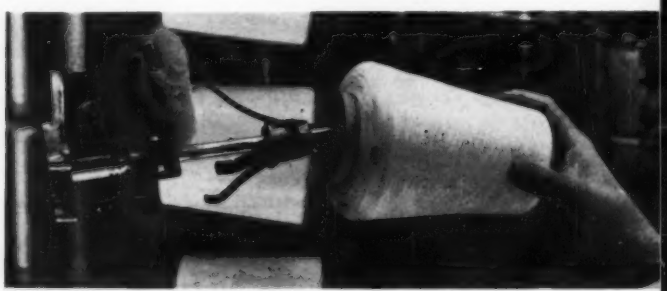
Let me show you why it's easy to deliver yarn from any present-day package with a Kidde Creel



You need only a basic holder and adapters to handle any yarn packages on the Kidde creel. You can see in the picture at bottom left, for example, how easily the basic pirn pin can be equipped with adapters to handle any pirn of textile yarn made today. The snap-on holder shown next to it accommodates any taper cone, as well as a range of straight packages. What's more, we'll design holders and adapters for future packages to accommodate them on the present Kidde creel.

Of course, this is only one Kidde feature. We could describe our tension devices and the uniquely simple Kidde stop-motion. We could explain how Kidde makes a creel to your specifications and how easily you can adjust its clamp-type construction to fit your changing needs. But we have a booklet that does all this. We'll be glad to send you one. Just write or phone.





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HOW OTHERS MANAGE

Tips on adding ball bearings to slubbers

THE EDITORS:

By performing this simple operation one can save many hours of slubber down time. On the Whitin slubber jack shaft there are three bearings that easily can be converted to ball bearings, and the only critical point in the conversion is the sprocket yoke bearing (C in Figure 1). This bearing should be bored ⅛" larger than the jack-shaft diameter to prevent contact between shaft and bearing (ample support is left for the yoke bearing bracket).

The ball bearing used to replace this member is shown positioned inside the frame head at B. The outrigger bearing A, the yoke box, and the main shaft bearing D at the twist-gear end will fit into position without difficulty.

The ball bearings available for converting the top cone shaft can also be installed with very little trouble, but there is one very important operation that should be performed to save later machine down time.

Figure 2 shows ball bearings labeled A, B, and D. Bearing C is the old sleeve bearing on sampson No. 1, and it cannot be removed from the frame because it is needed as a support for the top cone shaft quadrant. But it is not needed for a top cone shaft bearing. This bearing should be bored out ⅛" larger than the diameter of the top cone to prevent wear such as was outlined in the discussion of the jack shaft conversion.

CONTRIBUTOR No. 1182

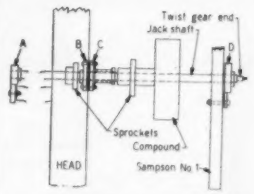


Figure 1—Jack Shaft Bearings

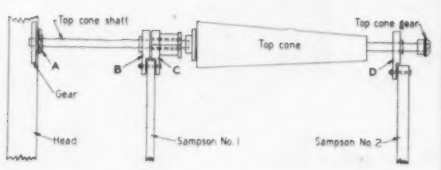


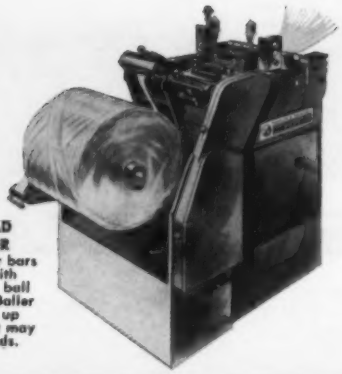
Figure 2—Top Cone Shaft Bearings

C. C. AUTON of Maiden, N. C., won TI's Kink Contest which ended August 15.

In the photo at the right TI associate editor Milton May (right) presents the $100 cash award to Mr. Auton. Obviously they are both quite happy.

Another Kink Contest is now on, and it ends on December 15, 1959 . . . just in time for the winner to get his $100 before Christmas.

Send your entries now. The rules are on page 162.



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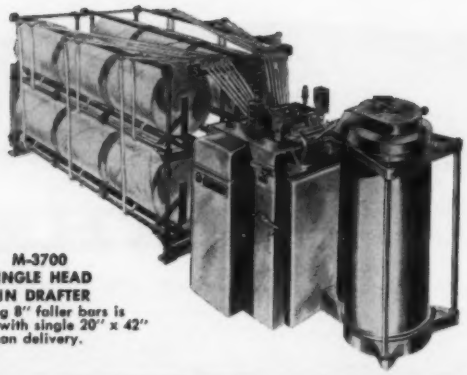

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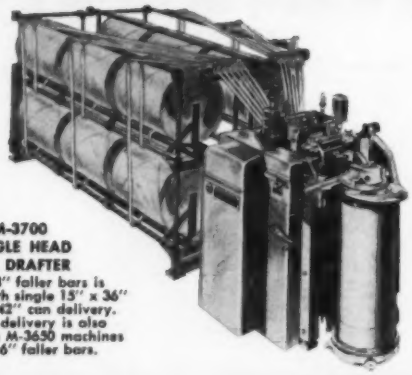

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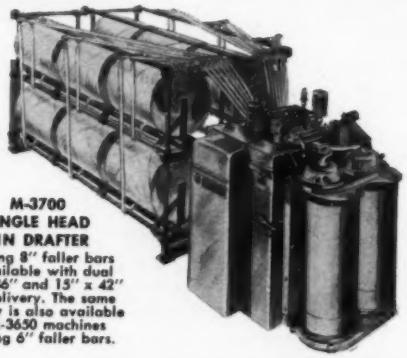

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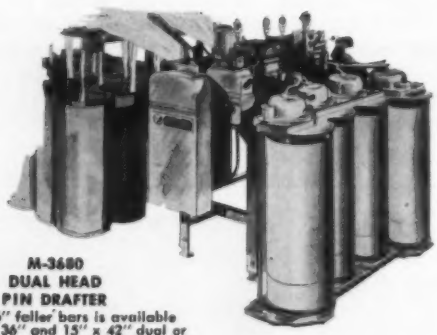

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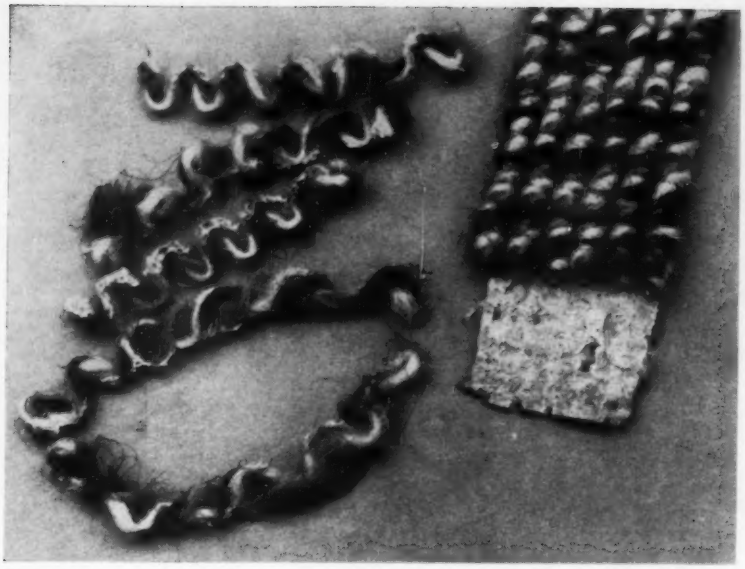


Carpets made by gluing tufts in place

THE EDITORS:

I noted on p. 159 of the August issue of TI the inquiry about making carpet by gluing yarn on a jute backing. We are enclosing a sample of carpet which we believe meets this description [see photo].

The Chemical and Rubber Corporation of America, 768 Frelinghuysen Ave., Newark 12, N. J., made the carpet. I believe they are a subsidiary of the Scranton Lace Co. Previously the company was known as Lea Fabrics, Inc.

W. LYLE HOLMES
Archibald Holmes & Son

Cardboard top detaching roll clearers

THE EDITORS:

In our comber room we had trouble with felt-and-mohair covered detaching top roll clearers not being cleaned properly, and this was causing unnecessary clearer waste to get into the combed sliver. Also these felt-and-mohair covered clearers must be cleaned with a stiff-bristle brush, and on many occasions in brushing over the clearer the brush will run over and leave particles which fall into the combed sliver. These particles are too small to cause the end to come down at the drawbox of the comber. They will also pass on through the trumpets of the drawing and into the roving. Upon entering the spinning they will cause a gout or slub of clearer waste in the yarn.

To correct this situation we covered the detaching top comber roll clearers with cardboard which can be purchased and cut to size—I have also used cork for this work; some mills may use calf skin. However, since the detaching rolls stop and start 90 to 100 times per minute, I have found that the cardboard is most practicable because there is less friction between the surface of the cardboard and the detaching roll. There is practically no pickup in clearer waste to contend with. After running a few hours the cardboard surface will fit itself level with the detaching rolls and will become trouble-free.

CONTRIBUTOR NO. 1189

Make toe changes easy

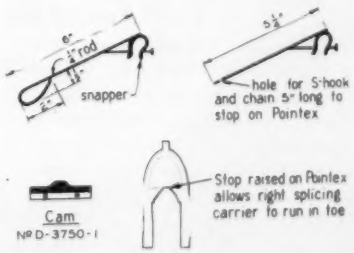
THE EDITORS:

This kink applies to 30-section Reading F-F machines that are not equipped with electronic devices for making the toe change. On the older models the operative had to go from one end of the machine to the other to make that change, and this device will enable that person to make the change quickly and without walking.

Four basic steps are involved (see the illustration). A handle is needed, and this can be made by bending a two-inch section of an eight-inch piece of ¼" steel rod to form a grip and then welding a snapper to the other end. Attach this slightly to the right of the left splicing friction and on the ⅝" rod that is positioned above the pointex and which runs the length of the machine.

A second piece is formed of ¼" steel rod (5¼" long) drilled at one end to receive an "S" hook. A snapper is welded to the other end, and a five-inch length of chain is fitted to the "S" hook and connected to the pointex stop used for the splicing carrier. Fit this in place.

Remove the cam (No. D-3750-1) from the slide bar under the right


rod
snapper
hole for S-hook and chain 5" long to stop on Pointex
Stop raised on Pointex allows right splicing carrier to run in toe
Cam
No D-3750-1

end of the pointex, turn it upside down, move it as far to the right as possible and attach it to the slide bar with one screw instead of the two screws that are removed. At the same time, check the hold-

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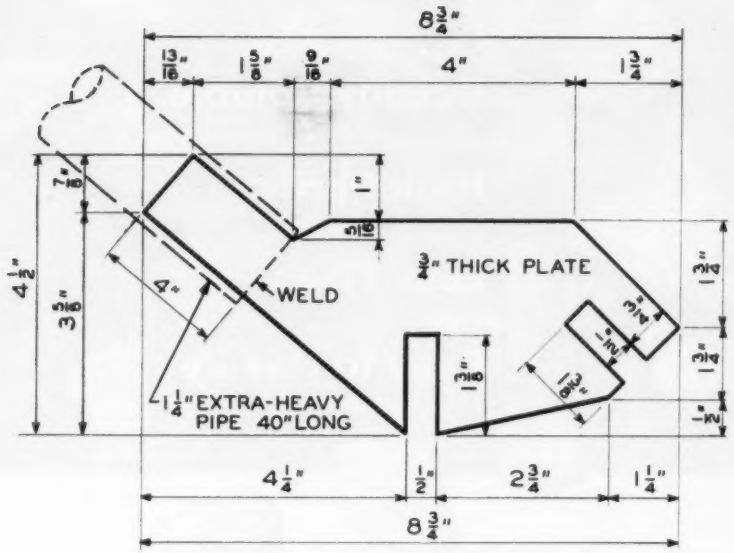
ing device on the pointex with the pointex racked in to the position it will assume when at the toe change. Changing this cam enables the right splicing carrier to go under the holding device while running through the toe.

The fourth step is not essential except as a safety feature, although without it the knitter must remember to raise the holding device some time during the running of the toe. Use another cam (D-3750-1 or -3) and set it on the slide bar so that it will raise the holding device with the machine couliered to the right with the needles down. This will allow the carriers to be racked out without hitting the holding device on the pointex.

CONTRIBUTOR No. 1178

Tool for bending heavy sheet metals



THE EDITORS:

Pictured here is a tool for bending heavy metal. Although it is shown as being made from ¾" metal plating and with a 40" handle, these dimensions may be changed to fit the local need. The outline is merely suggestive and may be changed to add reinforcement where needed or to reduce weight where possible.

CONTRIBUTOR No. 1170

Board simplifies cutting spinning, twisting tapes

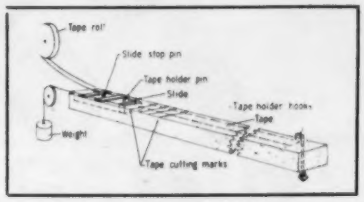
THE EDITORS:

If spinning tapes are cut under tension equal to that under which they operate, a more uniform tape length and greater tape life will result. They can be precut and bundled according to the length desired, and this kink supplies a means of cutting them under the required tension through the use of a cutting board.

First, determine the length of the various tapes, starting with the longest one and making the 2" x 4" board (see illustration) long enough to accommodate it.

At one end fix a tape holding hook, spring loaded to hold the hook in the tape, and at appropriate intervals inscribe cutting marks corresponding to the various tape lengths.

At the end opposite the tape holding hook, rout away the board to receive a metallic slide (con-



taining a stop pin and pointed tape holding pin) of convenient dimensions. Fix two metallic battens across the recess to hold the slide in place, attach a line to the slide, lead it over a pulley, and secure it to the weight that is to approximate the tape running tension (amount of weight must be established).

Position the tape roll conveniently to the slide, lead the tape end through a guide (not shown), down the length of the board and secure it under the tape holding hook. Then, pull the tape taut and skewer it on the tape holding pin while that member is pulled as close to the tape holding hook as the slide will permit. With the weight supplying the tension, cut the tape at the appropriate length mark.

CONTRIBUTOR No. 1184

Adding third slasher cylinder

THE EDITORS:

We had a two-cylinder slasher made in 1954 by Wm. Dickensons Ltd. The large cylinder was seven feet in diameter; the small one was five feet, giving a total of 25.83 linear feet of usable heating surface. We increased the total heating surface by some 34 per cent, and increased the slasher speed proportionately, by adding a third cylinder of 49" diameter as shown in the illustration. The two-cylinder machine operated at about 20 yards per minute.

The sketch shows the arrangement we used in installing it. The frame is made of angle iron and is set in the space between the size box and the first cylinder. It is mounted in ball bearings seven

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TYPICAL AVERAGE ANALYSIS:

Assay as $Zn(NO_3)_2$	72.5%
Zn	24.6%
Fe	0.001%
Pb	0.003%
pH of 5% solution	5.2
Insol. in 1% Nitric Acid Solution	0.001%

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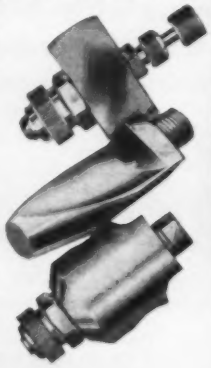

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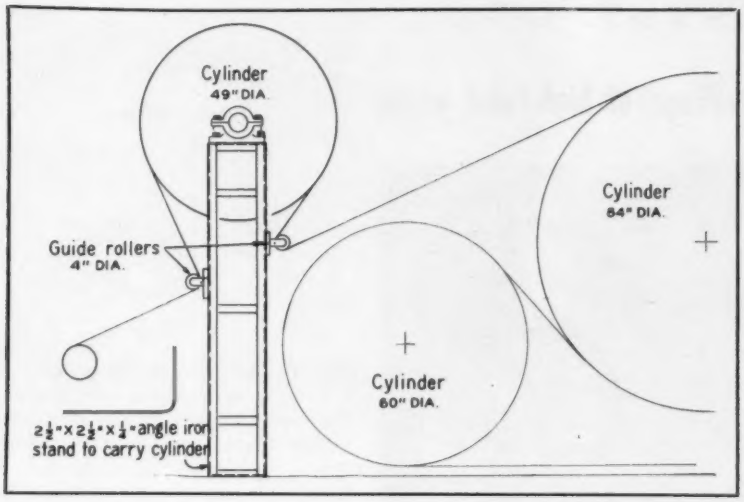


feet from the floor and on top of the frame. The supporting members are secured to the original machine and to the floor and are adequately braced. Two four-inch guide rollers are provided, one on each side of the frame, to guide the yarn as it leaves the size box (to the left of the illustration), wraps around the third or new cylinder, and passes on to the largest cylinder.

CONTRIBUTOR No. 1181
(India)

Leather brake helps winder efficiency

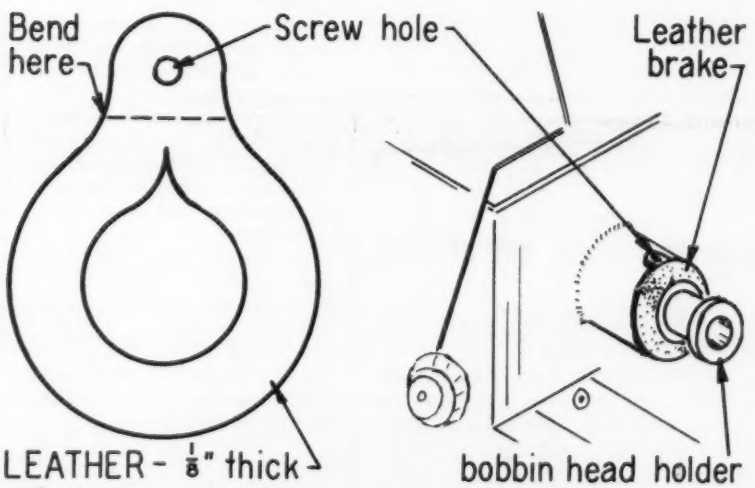
THE EDITORS:

On our automatic Whitin Schweiter winder I used to have trouble when I added oil or topped it to the correct level. When the bobbin was changing, the bobbin head would turn and flip the thread away and the new bobbin would not catch the thread and start.

The new and heavier oil would cause the friction clutch to turn a little and cause the bobbin holder to turn over and flip the thread away. The next bobbin inserted would miss the thread and not start.

To prevent the bobbin head holder from turning in the middle of the doff, I added a leather friction brake (shown here almost actual size) behind the bobbin head holder so when it was in the doff position the brake held the head still, even against the drag from the new oil in the friction clutch.

CONTRIBUTOR No. 1186



Reduces reel waste

THE EDITORS:

One of the most annoying things in the reeling of cotton yarns is slippage in the spring used for collapsing the reel. Should the slippage be considerable, there is a possibility that the collapsible swift of the reel will give way entirely, thereby causing much waste, loss of production—and even reel breakage.

A device that will prevent this trouble is an adjusting screw and locknut. The bracket that contains the spring is tapped for the adjusting screw—see Figure 1. The portion of the spring that fits into the bracket is slotted so that the position of the spring may be adjusted.

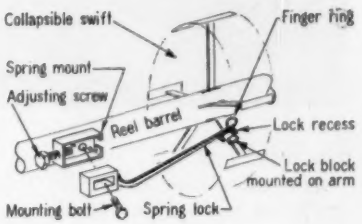


Figure 1

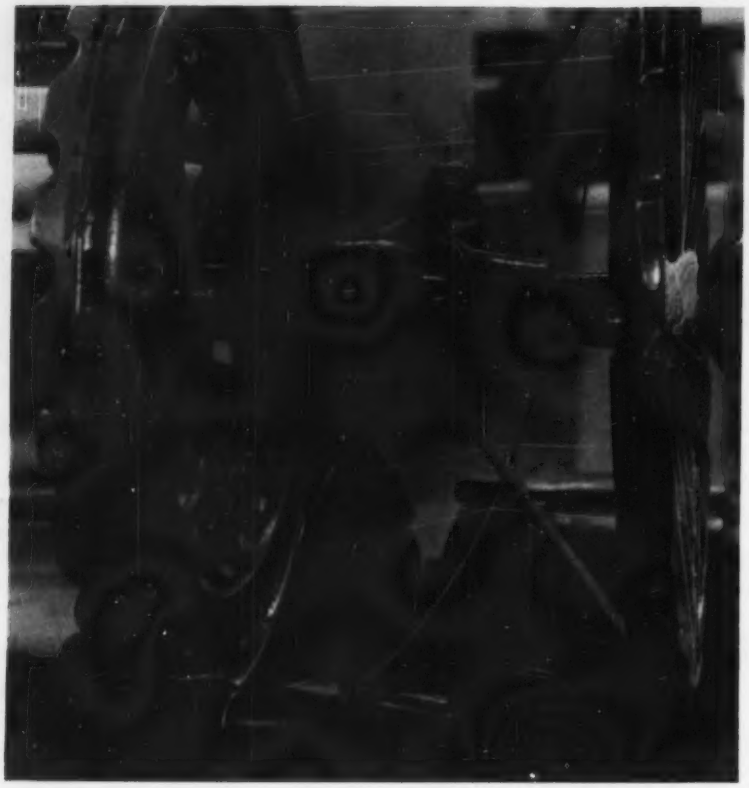
The setting of the spring should always be slightly to one side of the collapsible position. If not it may be impossible to collapse the reel. The result of this situation is that the skeins will have to be removed one by one, a time consuming operation.

This undesirable condition can be eliminated by bringing the slot limit for the spring just to a point a little beyond the collapsing side.

For clarity the ring is turned sideways in the drawing. Normally it occupies a vertical position and may be held down with a wooden lock that is not shown.

CONTRIBUTOR No. 1171

Reduces transfer breakage of high-twist yarns



THE EDITORS:

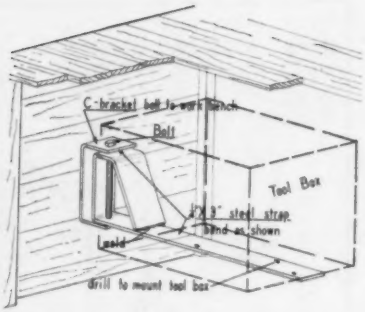
In running some high-twist filling yarns made of low-grade cotton, we found that the filling broke excessively on transfer. The high twist destroyed some of the elasticity needed to absorb the shock of the transfer.

I moved the thread guide of our batteries about 1½" outward from the small end disk to give a little more yarn between those members, and to reduce the angle the yarn describes as it passes from the small end disk to the thread holder.

The change reduced our breaks at transfer so much that we have adopted the setting when running any yarns of reduced elasticity. It is necessary to use a hold-up wire under the threads to keep them out of the picker if sagging occurs, which will happen on some of the heavy filling.

CONTRIBUTOR No. 1190

Swinging bracket keeps tool boxes out of way



THE EDITORS:

A swinging bracket fastened beneath a work bench will enable a fixer to store his tool box out of the way and yet have it within easy reach whenever he needs it. The illustration shows the bracket as it is mounted with the tool box in phantom outline.

Few dimensions are given, since the system is to be tailored to local conditions. The ¼" x 3" steel strap is suggested because it is strong enough to support the average tool box without sagging.

Before we adopted this system, the fixers kept their tool boxes on stands beside their work benches. Then, whenever they needed a tool, they had to take a couple of steps and stoop to pick it up. Thus the tools are now handier to the fixers and floor areas near work benches are kept cleaner than before.

CONTRIBUTOR No. 1168

KINK CONTEST RULES

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediate-up upon acceptance, and the $100 award will be made to the winner as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, December 15, 1959.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance—no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously and must not be submitted to any other publication.

► Send your contest entry to: The Editors, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 8, Georgia.

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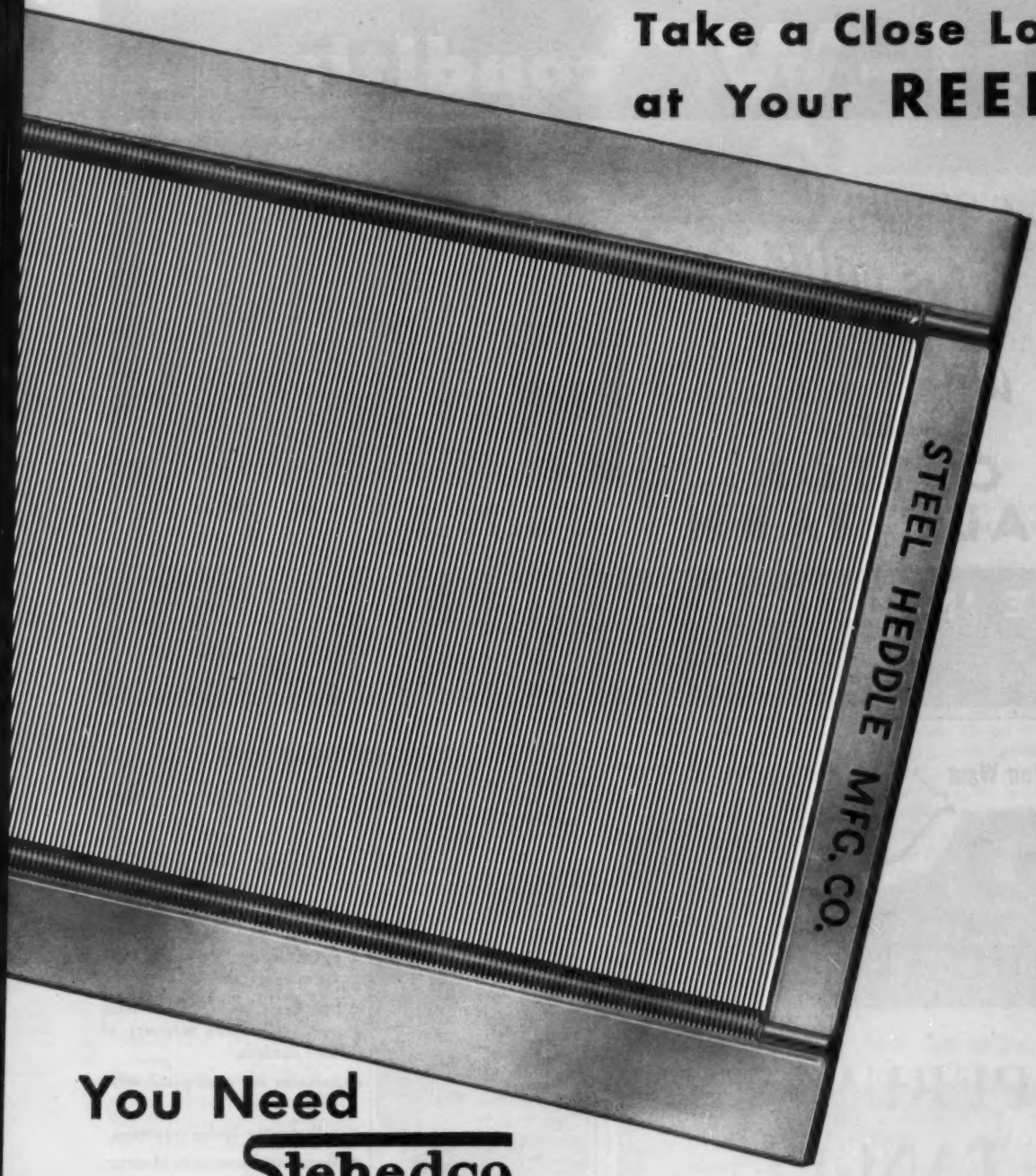

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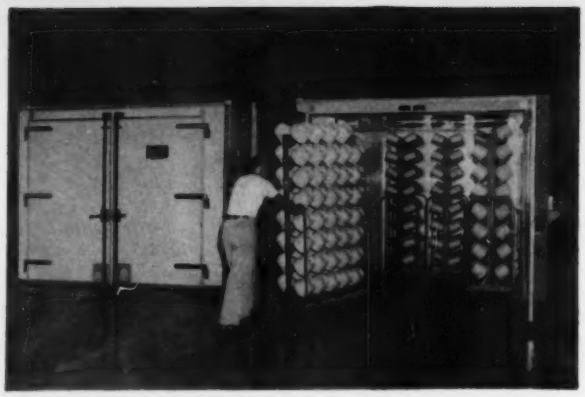

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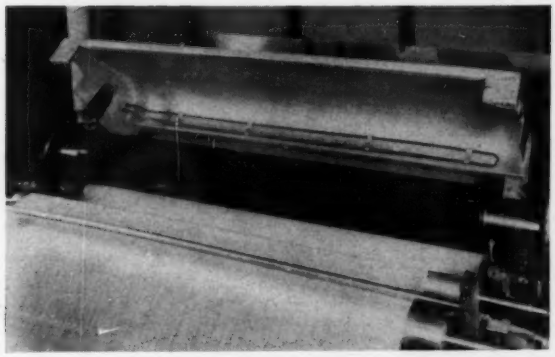
Please note: Claims made in all of these announcements of new developments are of necessity based upon information furnished by the respective suppliers.—The Editors.



Efficient and long lasting squeeze roll cover

A new slasher roll covering, called "Sealskin," eliminates problems of blistering, cracking, crazing, and swelling. Applicable to old cores, as well as to new ones, the cover is designed to provide maximum operating efficiency and long service.

The material resists all types of sizes and may be used interchangeably in the front and back positions. Because of its uniform density, the cover affords a consistent size pick-up and thus provides closer control of the sizing process.

The special compound from which the cover is made has a soft surface that protects the yarn from breakage. Another characteristic is wear resistance. Compared to conventional covers, this new material lasts up to twice as long and provides as much as 25 per cent longer service between grindings.

Stowe-Woodward, Inc., Newton Upper Falls 64, Mass.

Do you want more data? Write ◂ or use card on page 183; list L-101

Grind flats "straight" with this equipment

Use of equipment now available for grinding of card flats, an aluminum drum flat grinder and a micrometer-feed-type cradle, provides the following principal advantages:

1. A "straight" grind is obtained, eliminating the "low-middle" condition and permitting more accurate setting of the flats to the cylinder and utilization of the maximum carding surface of the flats.

2. Positive, visual adjustment of grinding drum to flats, eliminating "ear setting" and taper (low on one side) grinding of flats.

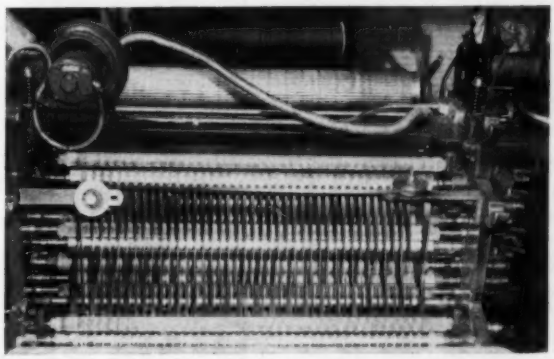
The "AlumaRoy" drum grinder weighs about one half as much as conventional steel drum grinders. Consequently, the flats do not flex during the grinding operation and cause the wire in the center to be ground shorter than that on the ends. Also, the unit is easier to handle, and the probability of it being damaged by dropping is reduced.

The "Microcision" grinding cradle is furnished with a master setting gauge to set the drum to the cradle. Set with this gauge, the drum grinder will be perfectly level and will maintain flats uniformly. A fine threaded micrometer type adjusting screw, together with an adjustable indicating collar graduated in thousandths of an inch and numbered for eye-level settings, is provided on each end of the cradle so that the grinder can "see" his settings. Accurate settings can be made and remade easily and quickly when moving the cradle and drum from one card to another.

B. S. Roy & Son Co., 801 Southbridge St., Worcester 3, Mass.

Do you want more data? Write ◂ or use card on page 183; list L-102

Continuous tapes up wool card output, quality



Increase in production and improved quality of roving are outstanding advantages provided by Atlas continuous tapes for wool card condensers. Higher output may be obtained since higher tape operating speeds are

a Dixie Bearings conversion with a 2 year record of no lost production, reduced maintenance . . . and a 30% Power Savings!

Over two years ago our engineers converted this main drive gear from a babbitt bearing to a ball bearing unit on a machine at Highland Park Manufacturing Company, Charlotte, North Carolina. Performance of this conversion, according to company engineers, has been outstanding! The housing for the bearings as well as the gear hub was produced by the customer in their own machine shop.

Prior to conversion, machine downtime was excessive because the babbitt had to be repoured every three or four months. A plus saving was in the reduction of power required to operate the machine. Highland Park Manufacturing Company officials now find power consumption is 30% less!

If your older equipment can be modernized with anti-friction bearings — our engineers can show you how. If you need bearings for any purpose, our stock carrying branches can supply you. We are *authorized* distributors of most nationally known makes of bearings. We and the makers guarantee every bearing we supply — Call the branch nearest you now!

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VIRGINIA: Richmond

possible, it is not necessary to stop the machine to replace a tape, and there are fewer wraps or wind-ups.

Improvement in end-to-end uniformity is provided by the one-piece tapes which can be applied in the mill with a single clipping tool. Also, there are fewer ends down when spinning roving made on continuous tape.

Some additional advantages of these tapes are:

(a) Fabric base construction is stretch resistant. Consequently, the tape holds its width, may be used longer, and greater tension may be applied when the type of stock processed makes this necessary.

(b) Tape edge wears well and will cleanly split the web of all but the finest stock.

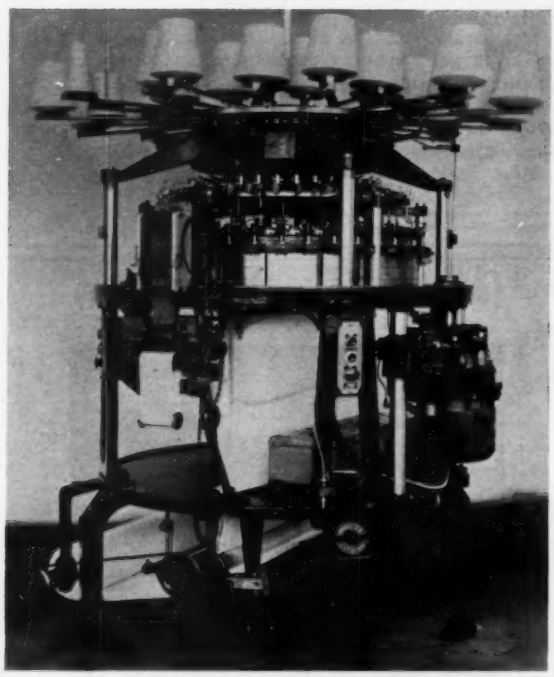
(c) Coating on both sides forms a smooth surface so that ends do not stick to tape to cause roll wraps or uneven weights. Coating also seals and protects against effects of wool oil emulsions.

With a kit of parts available mill personnel may easily modify existing tape condensers equipped with individual tapes for use of the new continuous tapes.

Davis & Furber Machine Co., North Adams, Mass.

Do you want more data? Write ◂ or use card on page 183; list L-103

Automatic jersey body machine cuts knitting cost



A new, fully automatic jersey body machine, the Model TA-32, provides high production of jersey fabric with 1 x 1 rib cuff, French welt edge, and a separation course. Some minor variations of this set-up are possible with this 32" circular knitting machine which is equipped with 32 feeds, is manufactured in cuts from 10 to 16 needles per inch, and is equipped with transfer type cylinder needles and a 33-end electric stop motion device.

A unique construction feature is the simplified two-section dial cam race which practically eliminates the use of swing arms (i.e., dividing cams) and requires only short butt needles, which substantially reduces dial needle butt breakage. Cylinder camming consists of three separate cam race sections.

Multiple cam race section construction in both the

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cylinder and dial permits removal of one cam race section without disturbing others; thus, time is saved in replacing sections that have been removed for cleaning or maintenance.

Simplified transfer section is another feature of the machine. It is constructed in such a way as to permit interchanging with any other knitting section on the machine. Design of the transfer device permits the cuff length to be accurately set from one course to any number of courses.

The control mechanism provides maximum flexibility with a minimum of required selections. Control stand provides a planned sequence of separation and transfer operations. Automatic changes are held to a minimum of one revolution of the knitting head, providing substantial savings in knitting time.

Individual motor drive with a two-speed vertical side drive and an automatic oiling system that lubricates all major wear points are other features.

Wildman Jacquard Co., 1210 Stanbridge St., Norristown, Pa.

Do you want more data? Write ◂ or use card on page 183; list L-184

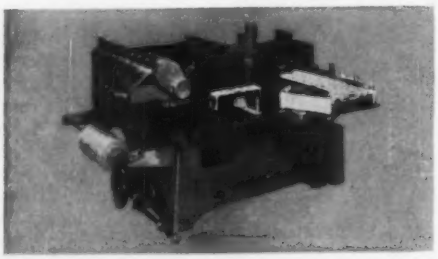
Above, the 1960 model Chevrolet low-cab-forward heavy-duty tractor is shown with typical trailer for transporting textiles. Below, the medium-duty stake model for general purpose use at the mill.

These trucks offer new ride, durability, safety

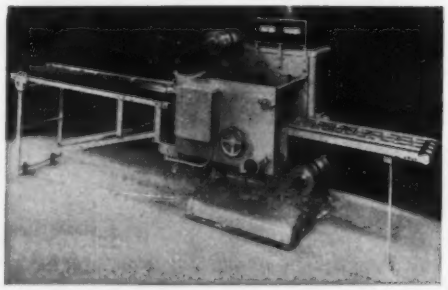
Chevrolet trucks for 1960 offer improvements in ride, handling, durability, and safety through the adoption of individual torsion bar suspension springs for the front wheels. In the two models pictured here, the low-cab-forward heavy-duty tractor and the medium-duty stake, torsion bar suspension is accompanied by two-stage, variable rate leaf-type rear springs.

New brake sizes on most models increase lining life up to 40 per cent, and on some models the drums are smaller but wider for more lining area and improved cooling. Steering systems are revamped, with equal length tie rods for easier toe-in adjustment and balanced steering control.

Four basic engines are offered: 235 and 261 cubic



REDUCE COSTS... PROTECT PRODUCTS... IMPROVE DISPLAYS... PROMOTE MULTIPLE SALES with Battle Creek's new Model 850 Automatic Bundler. This machine bundles groups of packages . . . 4, 6, 8, 12 and 24 to a bundle . . . at speeds up to 18 per minute. One operator can easily keep pace with a packaging line as high as 180 per minute. Depending on construction selected, the machine bundles with kraft paper, polyethylene, cellophane and other films; in bundles within 5" to 12" long, 4" to 10" wide and 1" to 8" high. Used for textiles, paper items, drugs, chemicals, cosmetics, food products . . . and/or what have you? **Battle Creek *"Continuous Flow"* Packaging Machines, Inc., Battle Creek, Michigan.**



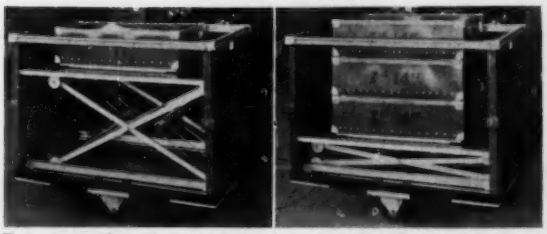
CHANGE PACKAGE SIZES WITHOUT EXCESSIVE DOWNTIME! Handwheel controls for varying the pouch width, and a simple gear change for varying pouch length, — both made without disturbing the heat-sealing units — provide almost instant adjustability. Thin articles (not necessarily uniform in shape) are pouch packaged between two endless strips of heat-sealing packaging materials at speeds up to 80 per minute. Pouch sizes range from a minimum of 2" x 2" x 1/16" to 27" x 15" x 1½" maximum. The "Flexopaker" is especially applicable for articles in the textile, food, automotive parts, industrial products, hardware or similar industries. High speed "Continuous Flow" performance but with a low price tag. **Battle Creek *"Continuous Flow"* Packaging Machines, Inc., Battle Creek, Michigan.**

inches in sixes and 283 and 348 cubic inches in the V8's (the 322-cubic-inch and one heavy duty 283-cubic-inch V8 model are discontinued). The sixes are offered in low-cab-forward models and a V8 in four-wheel drive units. V8 power will be available as standard or optional equipment on all except forward control models.

Oil control on the 283-cubic-inch V8 is improved. Performance and durability of the 348-cubic-inch are enhanced by a new intake manifold for freer engine breathing and full-throttle output. The four-barrel version of this engine is a thermostatically controlled air intake system which automatically selects inside or outside air for optimum temperature air for the fuel mixture. A new hydraulic clutch control system for smoother action and increased clutch life is standard on all but forward control models. Twelve transmissions are offered.

Chevrolet Motor Div., General Motors Corp., General Motors Bldg., Detroit 2, Mich.

Do you want more data? Write ◂ or use card on page 183; list L-105



Two views of a Kennett Unilevel truck with side panel removed to show construction details of the floating bottom. LEFT—Bottom lowers as springs flex under weight of one box. RIGHT—Fully loaded truck has accommodated three boxes. Note that top box is still at waist level.

Trucks reduce worker fatigue, safety hazard

Standard Kennett hand trucks can now be furnished with a "floating bottom" which keeps truck contents at waist level continually, thereby reducing operative fatigue and likelihood of personal injuries. Units so equipped are designated Kennett Unilevel Trucks.

The floating hardwood bottom is supported by heavy-duty torsion springs which permit the bottom to move up or down depending on the weight of the contents. Regardless of weight distribution, the bottom remains level and in constant alignment at all times because of a pantagraph arrangement of steel guide arms.

National Vulcanized Fibre Co., Maryland Ave. & Beech St., Wilmington, Del.

Do you want more data? Write ◂ or use card on page 183; list L-106

Permits test of mill spindles with mill bobbins

The Hinbul spindle and bobbin tester may be used to determine (1) magnitude of vibration created by out-of-balance condition of spindle, bobbin, or poor fit at controlled varied speeds, and (2) power consumption of a given spindle at regulated speeds operating with (a) dif-

NITRIDED SPINNING AND TWISTER RINGS

REVERSIBLE and NON-REVERSIBLE 8 and 10 mm, curved and straight Webb SPINNING RINGS

REVERSIBLE and PLAIN TWISTER RINGS

NITRIDED Rings with a surface hardness of 67 to 69°C Rockwell have greater resistance to wear . . . and are practically FREE from corrosion.

Accurate Profile

Mirror-like Finish

For Longer Life—Fewer Ends down—Increased Spinning & Twisting Production—Improved yarn Quality

USE NITRIDED SPINNING and TWISTER RINGS

TEXTILE SUPPLIES W D USED MACHINERY

Watson & Desmond

P. O. BOX 1954 • CHARLOTTE, NORTH CAROLINA

LOW COST TROUBLE-FREE OPERATION
...EASY INSTALLATION

New ALLEN PACKAGE DESIGN KIERS

For boiling or bleaching all types of cotton goods from gauze to heavy twills, these new ALLEN stainless steel Package Design kiers offer unusual opportunities for more profitable operation to small and medium sized bleacheries and those doing fine fabrics. Large plants, too, find them extremely useful for short runs and special fabrics. In many cases, they are replacing continuous bleaching operations for certain types of goods. Allen Package Design Kiers feature:

- **A completely prefabricated unit — pump and heater are integral parts of the kier — for easier installation and maintenance.**
- **Smooth, stainless steel interiors eliminate rub, rust and stain marks.**

Write today for circulars giving complete information on this as well as Allen kiers for knit goods and kiers for cotton and cotton batting.

William Allen Son's Company
SHREWSBURY • MASSACHUSETTS

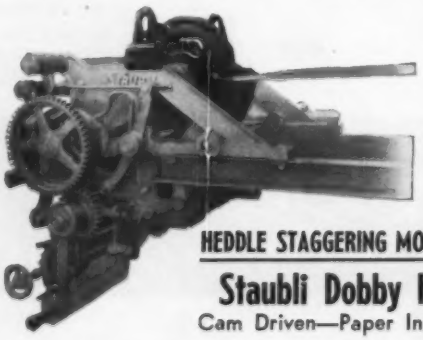
A Division of O. G. KELLEY & COMPANY, Boston 22, Mass.

WHITINSVILLE, MASS.

H.J. THEILER CORPORATION

SPARTANBURG, S. C.

Benninger Eng. Co., Ltd.	Sectional Warper and Beamer
Staubli Bros., & Co., Ltd.	Dobby Heads
Loepfe Bros., Ltd.	Optical Electronic Feeler
Whitin-Schweiter	Auto.-Filling Bobbin Winders



HEDDLE STAGGERING MOTION ON
Staubli Dobby Head
Cam Driven—Paper Indicating

3 WAYS YOU SAVE TIME
with this New, Low-Cost
AIR REEL

NEW, low-cost GRACO Air Hose Reel has three-way utility to save time and effort in using air-powered hand tools! Runs free . . . stops at 9 in. intervals . . . or adjusts to balance the tool. Only 12 in. high, 10 in. deep, 5 in. wide . . . it's a money-saving midget! Bolts to wall, post or ceiling . . . includes 15 ft., ¼ in. ID air hose. Gives you more *working* freedom . . . *investigate today!*

RUNS FREE! Allows free-wheeling work within 15 ft. radius. Spring pick-up gives effortless hose retraction.

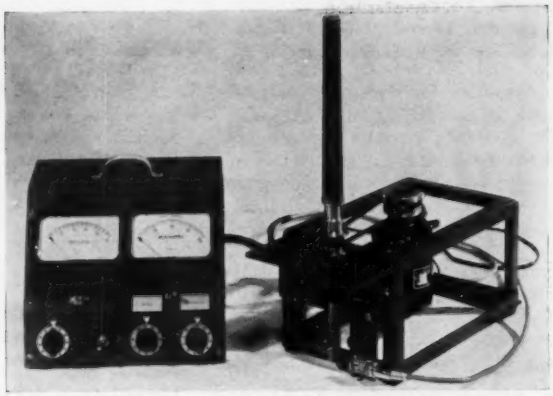
STOPS! Simple touch of a lever activates ratchet to provide automatic latch stops every 9 ins. . . . 19 stops in all.

BALANCES! Spring tension on hose pickup easily adjusts to counter-balance weight of the tool. Saves muscle power!

See your local supplier or write today for details!

GRACO ENGINEERS AND MANUFACTURERS

GRAY COMPANY, INC. • 1124 Graco Square • Minneapolis 13, Minn.
(*See Phone Book Yellow Pages, Spraying, for Local Graco Suppliers*)



The Hinbul spindle and bobbin tester.

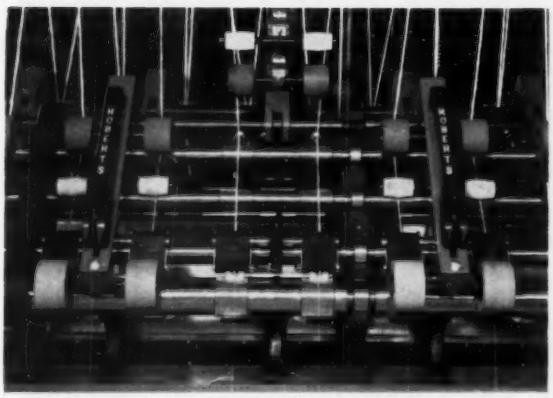
ferent methods of balloon control, (b) balanced or unbalanced loads, (c) different yarn constructions, (d) oils of different viscosities, (e) different windage conditions, (f) different package weights, and (g) different speed levels.

Use of this tester, which consists of a portable electrical control and test stand, provides the following advantages: (1) isolated spinning base rail conditions; (2) spindles from frames in mill may be tested with mill bobbins; (3) critical operating conditions may be determined; (4) field calibration.

Hinbul Mfg. Co., 2619 Club Drive, Gastonia, N. C.

Do you want more data? Write ◂ or use card on page 183; list L-107

Long-fiber draft system for roving and spinning



Close-up of the PermaSet drafting system for spinning.

The drafting system used on the Roberts Arrow WM-2 long fiber spinning frame is also manufactured for installation on existing roving and spinning frames. A unique feature of the system is the fact that it accommodates fibers ranging in length from 1½" to 8" without roll setting changes; hence the name PermaSet.

The top roll suspension is completely equipped with ball bearings, and all four lines of bottom rolls are mounted in grease-packed ball bearings. The front bottom roll is 2" in diameter with "EvenGrip" fluting which contributes substantially to evenness. The top arm suspension lifts all top rolls simultaneously for convenient cleaning or inspection.

Weighting is accomplished by cartridge-enclosed

Announcing

MOROPOL 762

. . . a DURABLE Non-Ionic Resin Softener

Moropol 762 increases tear strength and abrasion resistance, and adds to the crease angle in resin treated fabrics. These properties are durable for the life of the fabric.

The "hand" imparted by Moropol 762 as a resin softener is silkier than with other durable softeners, and is excellent for fabrics like women's apparel. It does not contribute to the pickup of soil and will not retain soil or dirt during laundering, as do many thermoplastic resin softeners. This feature recommends its use on white goods in preference to acrylate, silicone, and polyethylene softeners.

General Properties

Chemical Nature:	An aqueous non-ionic dispersion of an epoxy type plasticizer.
Appearance:	Creamy white emulsion
Concentration:	40%
pH:	6.0 — 6.5
Compatibility:	Compatible with water phase resin solutions as well as cationic, acid, alkaline, and metal salt additives.
Stability:	Freeze-thaw and storage stable for over 6 months.
Shipped:	in 55 gal. drum containers . . . exact net wt. 440 lbs.

Let us send you technical data on Moropol 762.

MORETEX Chemical Products, INC.

314 W. Henry St., Spartanburg, S.C.

Manufacturing Chemists

Established 1908

springs with front roll pressures up to 120 lb coming from the roll beam. The 45-degree roll stands are designed for easy piecing.

Roberts Co., Sanford, N. C.

Do you want more data? Write ◆ or use card on page 183; list L-108

Finishes and chemicals

A resin finish with little free formaldehyde imparts a high quality of crease and shrink resistance to natural and synthetic fabrics. Called C-Tron, the thermosetting resin eliminates odor problems. Some finishers have eliminated the afterwash process by using it.

Crown Chemical Corp., P. O. Box 1536, Providence 3, R. I.

Do you want more data? Write supplier or use card on page 183; list L-201

A latex backing for high pile knit goods. Maniflex 500, gives exceptional dimensional stability, virtually eliminating shrinkage and stretch, and prevents raveling due to cutting and handling. Resistant to both laundering and drycleaning, the clear latex film cures at low temperatures, is non-toxic and non-flammable, and can be applied by roller or spray.

Manufacturers Chemicals Co., Inc., 930 N. Darien St., Philadelphia 23, Pa.

Do you want more data? Write supplier or use card on page 183; list L-202

A new wetting-out and penetrating agent. Padding Auxiliary TX 3032, can be used on unscoured material with good-level, vat color dyeings. It is particularly suitable for use with pigments, vat pigment padding, and jig dyeing. There is no pigment migration during the drying operation when it is used with Lumatex pigment system.

Putnam Chemical Corp., Beacon, N. Y.

Do you want more data? Write supplier or use card on page 183; list L-203

A carrier for dyeing of polyester fibers. Palatinit TX 5064, is completely non-toxic and soluble in hot water. Its solubility permits the product to be removed from the fiber after the dyeing cycle, so that it will never produce odor during storage or additional processing.

Putnam Chemical Corp., Beacon, N. Y.

Do you want more data? Write supplier or use card on page 183; list L-204

An aqueous solution of a sequestering agent called Plexene XX, chelates ferric iron through a pH range of 3 - 14. It is effective in chelating calcium, magnesium, copper, and other di- and tri-valent metals, and it will selectively chelate iron in alkaline solutions before calcium. Useful in dyeing, printing, scouring, and finishing, the product has a peptizing effect on oil, wax, gum, heavy soil deposits, grease, and carbon.

The Tanatex Chemical Corp., Belleville Turnpike, Kearny, N. J.

Do you want more data? Write supplier or use card on page 183; list L-205

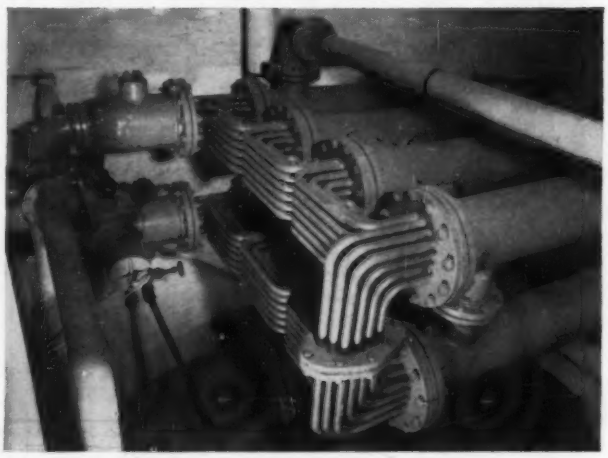
Aids for dyeing polyester and triacetate fibers. Emkalar Base E-55 is an emulsifier with which a carrier for dyeing these fibers can be made in the wet processing plant.

Emkalar 527, a prepared carrier, is a clear, bright oil easily dispersible, even in cold water, and stable in storage. In dyeing it produces deep shades with extremely fine color yield.

Emkay Chemical Corp., 319-325 Second St., Elizabeth, N. J.

Do you want more data? Write supplier or use card on page 183; list L-206

MAKE YOUR BOILER ONE THIRD LARGER WHILE FEEDING IT ONE THIRD LESS FUEL



Ludell-Bready Systems of Heat Recovery turn waste into profit by reducing steam demand and fuel consumption through reusing heat in waste water.

A Ludell-Bready System gives you . . .

CONTINUOUS MAXIMUM HEAT RECOVERY • PEAK EFFICIENCY • AUTOMATIC SELF-CLEANING
GUARANTEED TEMPERATURE RISE

Let us measure your plant for savings. Write today.

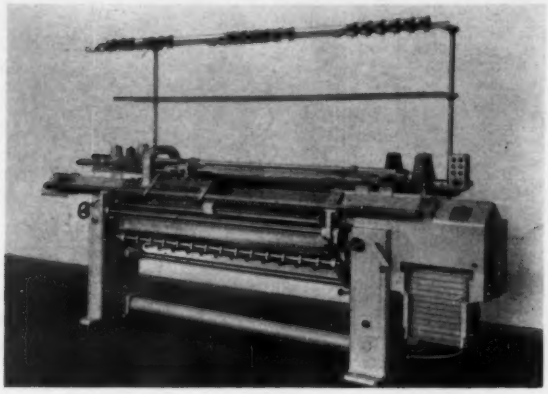
Ludell *manufacturing company*

5200 West State Street • Milwaukee 8, Wisconsin

Representatives in all 49 States and Canada

MANUFACTURERS OF BREADY SYSTEMS OF HEAT RECOVERY AND HOT WATER HEATING
• WATER HEATERS • STORAGE TANKS • WHEELER SELF-UNLOADING WASHER

Increases knit outerwear pattern possibilities



Recently introduced in the United States was the Schaffhouse Model DJFU flat knitting machine which features a wide range of pattern possibilities.

Without Jacquard attachment the machine produces all classical stitches; provides loop transferring on all needles, on the high butt needles or on the low butt needles only, from the front to the back needle bed or vice versa; and will automatically change from 2 x 2 rib to 1 x 1 rib or to single side fabric (jersey) from 1 x 1 rib or from jersey to 2 x 2 rib.

With Jacquard attachment it produces all multi-colored Jacquard patterns and cardigan, tuck and racked designs combined with stitch transfer.

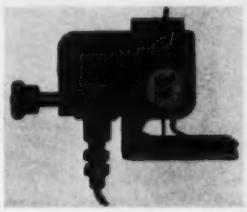
Knitting and stitch transfer take place at one stroke of the carriage on this machine which has a 63" needle bed and is manufactured with 5, 7, 8, 10, 12, 14, and 16 needles per inch.

On a 12 gauge machine production of 48 rows of stitches per minute may be obtained.

Robert Reiner, Inc., 550-564 Gregory Ave., Weehawken, N. J.

Do you want more data? Write ◂ or use card on page 183; list L-109

Tenter feeder switch speeds production

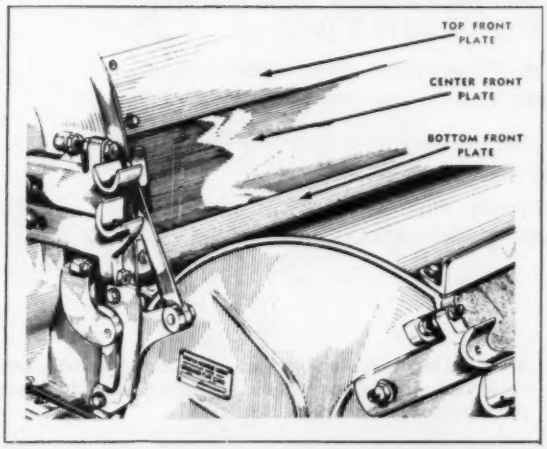


A tenter feeder switch recently placed on the market, eliminates misclips, thus speeding production and cutting costs. The unit also assures evenly tentered cloth and a constant uniformity, while greatly reducing seconds and reruns.

Usable in electric, pneumatic, or hydraulic operations and adaptable for either a-c or d-c, the device has the following construction features: (1) a convenient outside lever and bold-face setting scale; (2) push-button operation permitting lateral adjustment of tenter rolls when cloth is not in switch; (3) knurled handwheel to regulate the depth

CARD PLATES-

PRECISION MADE OF QUALITY
ROLLED STEEL
GROUND and POLISHED



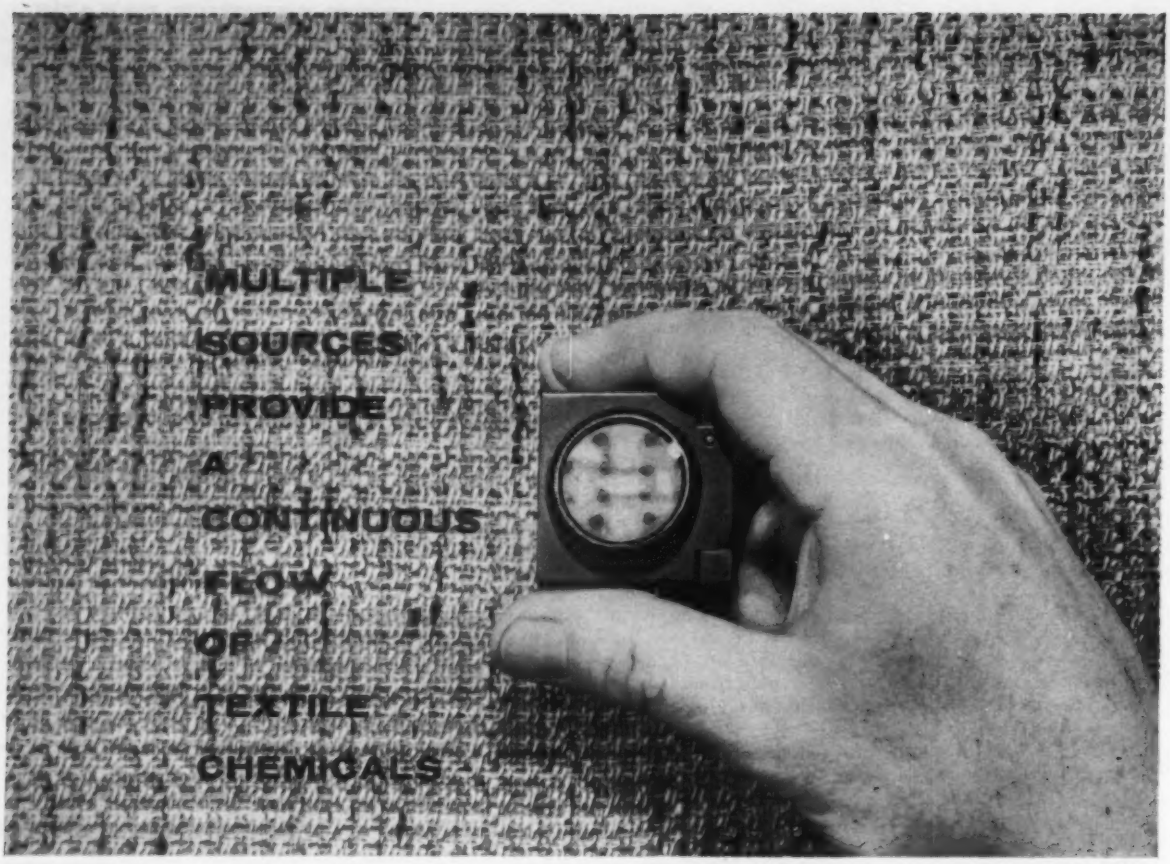
Smooth, close setting CARD PLATES are necessary for good carding. ALL CARD PLATES should be checked periodically for smoothness and straightness. Rough plates are ineffective and costly in the Carding operation.

JENKINS manufactures CARD PLATES — standard or special — for all makes and sizes of cards. Ground and Polished — inside and outside. Straight and true to close tolerances.

Why not talk to a JENKINS METAL SHOPS representative about it? They are SPECIALISTS in Textile Metal Products.

SINCE 1912
JENKINS METAL SHOPS
INCORPORATED
ENGINEERED PRODUCTS

JENKINS METAL SHOPS, Inc.
P. O. BOX 1160
GASTONIA, NORTH CAROLINA



Carbon Disulfide, Caustic Soda, Sodium Sulfhydrate (Sodium Hydrosulfide) and Sulfuric Acid are in constant demand.

It has long been Stauffer policy to provide these essential textile chemicals in a steady stream.

Stauffer plants in Virginia, Tennessee, Pennsylvania, Ohio, Western New York and Alabama are the chief sources for the Textile Industry.

A traffic department of professional skill maintains daily contact with the movement of chemicals by truck, tank car and barge.

Top quality chemicals, tremendous capacity, multiple sources, skilled and conscientious traffic control have made us many satisfied customers in the Textile Industry.

We're looking for more!

Especially, we'd like to hear from people who can utilize Stauffer's Technical Service on handling, safety and materials of construction for these important textile chemicals. Stauffer is the country's leading producer of Carbon Disulfide, one of the largest producers of Sulfuric Acid and Sodium Sulfhydrate, and a major producer of Caustic Soda.

Stauffer CHEMICALS SINCE 1885

STAUFFER CHEMICAL COMPANY

380 Madison Avenue, New York 17, New York
Prudential Plaza, Chicago 1, Illinois
824 Wilshire Boulevard, Los Angeles 17, California
636 California Street, San Francisco 8, California
P. O. Box 9716, Houston 15, Texas

SOUTHERN OFFICE: Stauffer Chemical Company, 2350 Palmour Drive, N. E., Atlanta 5, Georgia

selvage is fed into clip; (4) selvage support plates that assure safe operation on lightest weight material; (5) a safety switch that automatically prevents entering rails moving improperly when damaged selvage or cloth ends pass through the switch; and (6) enclosed selvage feeler contacts protected from dirt and dust and visible through a plate-glass window.

Mount Hope Machinery Co., 15 Fifth St., Taunton, Mass.

Do you want more data? Write ◂ or use card on page 183; list L-110

Spindle lets you forget lubrication, replumbing

Now available as a replacement item on existing spinning frames is the Supreme anti-friction spindle with which all new Roberts spinning frames are equipped. Fitted with two extra-wide, grease-packed ball bearings that are widely spaced at the top and bottom of the base, the spindle need never be relubricated.

The spindle base is of one-piece construction. Removal of the doffer guard screw permits disassembly of the rotating mechanism without removal of the spindle base from the rail; hence, replumbing is unnecessary.

The bearings are satisfactory for operation at speeds up to 15,000 rpm or even higher.

Roberts Co., Sanford, N. C.

Do you want more data? Write ◂ or use card on page 183; list L-111

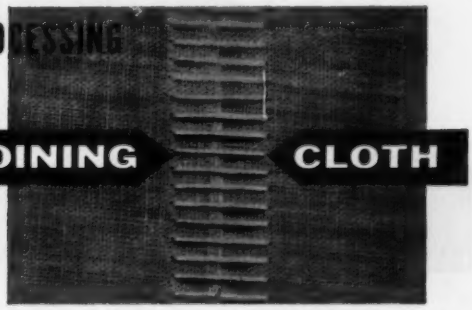
Radiant heater quickly warms up and cools off

An industrial radiant heater engineered for quick warm-up and cool-off has been developed for drying, baking, curing, and pre-heating. The tubular unit reaches full heating capacity of 800 to 850 F within three minutes, eliminating warm-up delays on processing lines. Since the Vycor brand heater also cools rapidly, it does away with need for complex equipment to divert the heat after shutdown of the line.

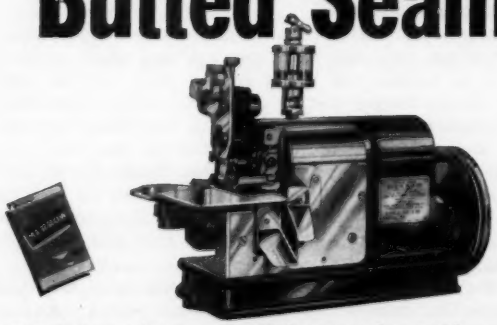
Designed for horizontal mounting above or below the process line, the high-watt density heater produces an average of 20 watts per square inch of working surface. By providing more useful heat per kilowatt, the unit cuts power costs. Since little heat is dissipated into the

for DYEING • BLEACHING • FINISHING • PROCESSING

HERE'S A BETTER METHOD OF JOINING CLOTH



MERROW Butted Seams



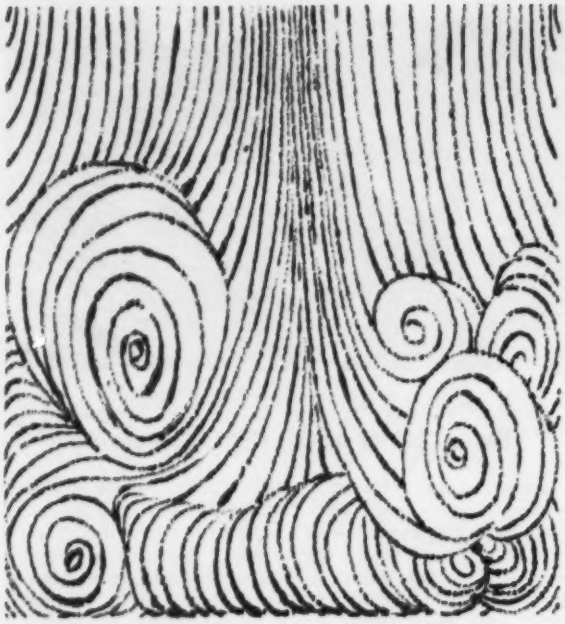
Joining piece goods end-to-end with a Merrow Butted Seam improves processing and saves material because:

- Material moves through continuously, speeding production.
- Seam opens *flat* under tension of processing.
- Lack of bulk at seam simplifies calendering, shearing, napping, printing, coating, filling, etc.
- Seam "gives" with material.

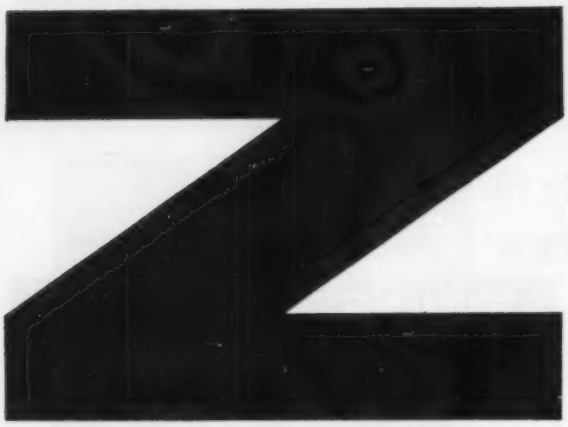
Machines may be used in conjunction with several different types of cloth handling equipment and are also available for joining *knitted* fabric for processing.

Write today outlining your particular processing problem. We'll be glad to make recommendations and submit sample stitches on your own material.

TRADE MARK REG
The MERROW MACHINE COMPANY
2805 LAUREL ST. • HARTFORD, CONN. • U.S.A.



SANDOZ INTRODUCES CEROL Z



A complete Technical Bulletin on Cerol® Z—the newest member of the Cerol Water Repellent range—is now available. Write or 'phone for a copy. Cerol Z is specifically designed to produce excellent water repellency with attractive hand on Nylon, Dacron,* Orlon,† Acetate, and Dynel.‡ As always—regardless of the problem—**Sandoz** technicians too, are available to help your dyestuff and chemical problems. Get all the details. Sandoz, Inc., 61-63 Van Dam Street, New York 13, New York. ALgonquin 5-1700

*T. M. DuPont polyester fiber †T. M. DuPont acrylic fiber ‡T. M. Union Carbide Chemicals Co.

Sandoz
THINKS AHEAD WITH TEXTILES SANDOZ

air, working conditions are more comfortable.

The unit emits high efficiency long wave infrared rays from wire coils enclosed in tubes of 96 per cent silica glass. The heat is absorbed uniformly regardless of product color. The glass tubing is highly resistant to heat, heat shock, and corrosion.

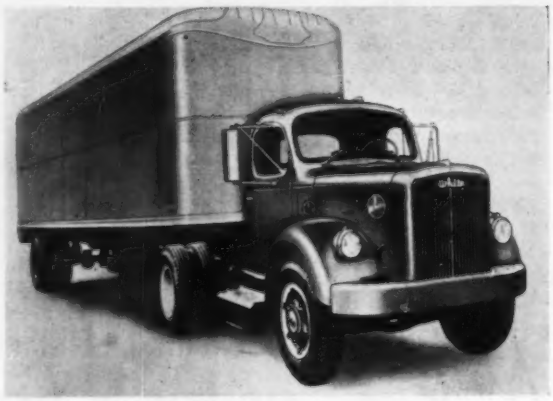
A triple reflector system directs 85 to 90 per cent of the available radiation onto the work. A strip of non-tarnishing platinum, fire-bonded to one side of the tube, literally bounces the heat toward the product. The housing, consisting of two layers of aluminized steel with Fiberglas insulation between, provides additional reflection.

The heater is virtually maintenance-free. Both housing and heating element are corrosion resistant. The reflector can be removed for cleaning.

Corning Glass Works, Corning, N. Y.

Do you want more data? Write ◂ or use card on page 183; list L-112

Heavy-duty trucks feature economical operation



A new 2000 series of medium-weight trucks and tractors is recommended for delivery, hauling, moving, and other jobs in the 22,000 to 40,000-pound GCW range.

The straight trucks in the new line are known as the White 2000 trucks with the tractors being designated as White 2000T, and they are equipped with OA Series wet-sleeve gas engines.

They are engineered with custom-design features of White's heavier trucks and are available with a selection of wheelbase, axles, transmissions, powerplants, frames, clutches, and other components for adaptability to specific job requirements.

Custom construction features of the line include wide-tread front axle for easy steering and short turning radius in traffic, 453 sq in frontal area radiator core for efficient engine cooling and performance, simplified fender and bumper removal to reduce maintenance downtime and expense, and rugged frame for long life.

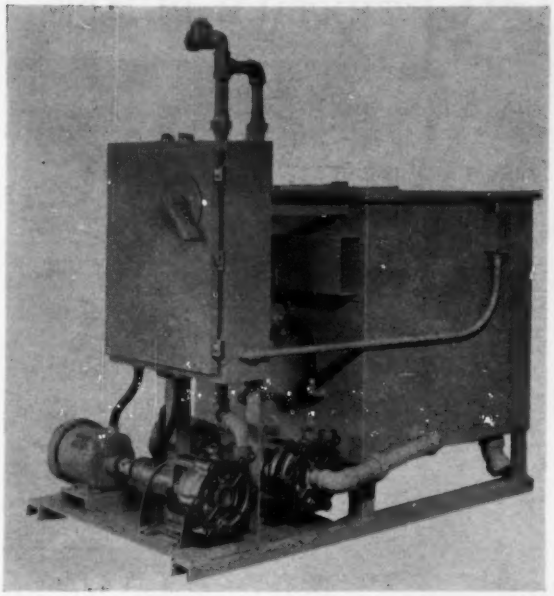
The standard engine on the 2000 Series trucks and tractors is the OA-130, which develops 130 hp at 3300 rpm and 230 lb-ft torque at 1600 rpm. Optional engine is the OA-145 with 145 hp at 3200 rpm and 270 lb-ft torque at 1600 rpm.

Both of these valve-in-head engines have wet-type replaceable cylinder sleeves, sodium-cooled exhaust valves, and stellite-faced exhaust valve seats. The engines provide excellent fuel economy and their wet-sleeve design assures long life before and after overhaul.

The White Motor Co., 842 E. 79th St., Cleveland 1, Ohio.

Do you want more data? Write ◂ or use card on page 183; list L-113

Automatically controls solution concentration



Consistent product quality, elimination of periodic sampling of solutions, and complete safety against operating hazards are benefits to be derived by using a new automatic electronic solution controller system for controlling concentration of caustic, acidic, or aqueous solutions in continuous or batch type processing equipment.

The complete system consists of: (1) a concentrate-level-setting control; (2) a sensing electrode which accurately measures change in concentration; (3) a magnetic amplifier utilizes output of sensing electrode to control operation of (4) a pump assembly which delivers concentrated solution to (5) a wash tank; (6) a combination compound and concentrate holding tank.

In operation, whenever the level of the concentrated solution in the holding tank falls below a preset point, the pump is automatically actuated and sprays a wash solution on the dry compound (or liquid concentrate) until the wash tank concentrate is again at the desired concentration level. The system is completely automatic since the wash tank solution is continuously circulated through the sensing electrode, and any variation in electrode output actuates the self-balancing control.

Electro Mechanisms Corp., 7301 Ridgeway Ave., Skokie, Ill.

Do you want more data? Write ◂ or use card on page 183; list L-114

Aids for textured yarn makers, nylon hose mills

Three nonionic coning oils recently placed on the market are used primarily for textured yarns and nylon filament yarn for hosiery knitting. Known as "Textilines", they are extremely light colored oils, exceptionally stable to oxidation and discoloration, and contain a static inhibitor.

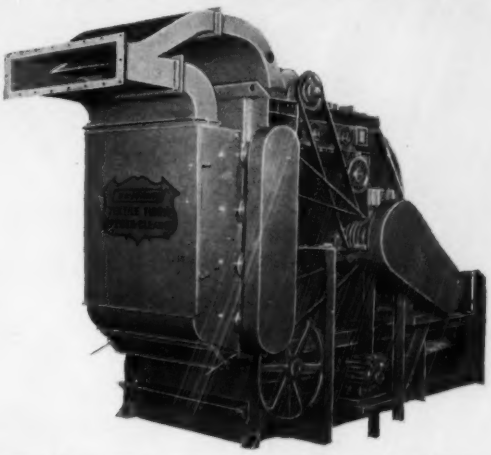
Textiline 3233 is recommended for application to bulk yarn such as Fluflon, Helenca, Saaba, Taslan, etc. It imparts proper lubricity to permit the formation of soft and even cones of uniform density, and aids knitting.

Textiline 3000 is specifically designed for preparing

DON'T GET

DISCOURAGED

WITH COTTON



GET CEN-TENNIAL'S OPENER-CLEANER

If peppery residue of leaf, bract and other trash in your cotton is getting you down, take heart . . .

Cen-Tennial's Opener-Cleaner removes this residual trash through precise separation of the fibers, without damage to the stock.

Spinning and weaving efficiencies are increased by the improved blending. It is possible to run lower grades and still maintain strength and quality. Overall waste is greatly reduced, resulting in tremendous savings.

Performance data and mill testimonials furnished on request.

OPENS—CLEANS—BLENDS

CEN-TENNIAL HAS BEEN MILL-CONDITIONING COTTON FOR

75 YEARS

"FROM FIELD TO FABRIC"

CEN-TENNIAL

COTTON GIN COMPANY
COLUMBUS, GEORGIA

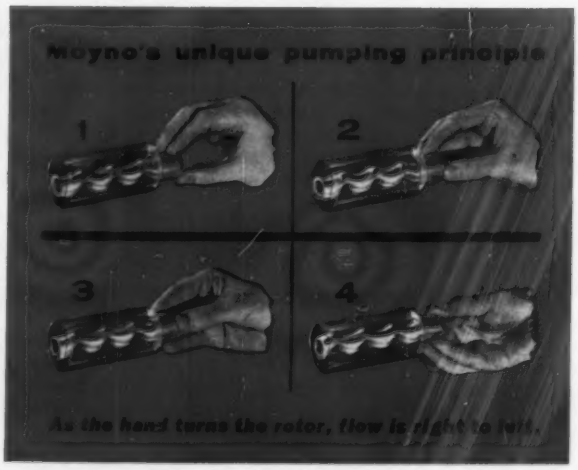
MOYNO®
TEXTILE PUMPS

MOYNOS® Pump Highly Viscous and Corrosive Textile Liquids *Without Excessive Wear!*

MOYNOS pump any textile liquid that can be forced through a pipe! They handle highly viscous materials—thickeners, starch size and non-pourable pastes economically. They pump corrosive liquids—acid solutions, dye and chlorine—without appreciable pump wear. MOYNO can satisfactorily handle caustic alkali solutions and not cause foaming or aerating. In many textile mills, MOYNOS have cut downtime drastically on mercerizing and sizing machines when they replaced rotary pumps which wore quickly and lost capacity and suction characteristics.

This remarkable ability to pump textile troublemakers is explained by MOYNO's exclusive *"progressing cavity"* principle. As shown at right and in the cutaway model above, a screw-like rotor revolves in a double-threaded stator to form progressing cavities which move all fluids smoothly and evenly through the pump. Corrosion is no problem because both rotor and stator can be made of special resistant materials.

MOYNOS are available in capacities up to 500 gpm; pressures up to 1000 psi. Off-the-shelf replacement parts are always immediately available. For details on how MOYNOS can undoubtedly cut costs and improve liquid handling in your plant, write today for Bulletin 30 TI



ROBBINS & MYERS, INC.

motors, household fans, Propellair industrial fans, hoists, Moyno industrial pumps

SPRINGFIELD, OHIO · BRANTFORD, ONTARIO

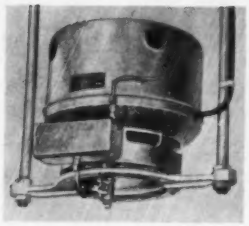
Ban-Lon.

Textiline 3199 is a lubricant for sized and unsized nylon yarn for hosiery knitting. It contributes to uniform stitch formation and will not adversely affect the size.

L. Sonneborn Sons, Inc., 300 Fourth Ave., New York, N. Y.

Do you want more data? Write ◂ or use card on page 183; list L-115

Unit humidifier features 4-way output of vapor



A unit-type (self-contained) humidifier recently placed on the market features horizontal four-way distribution of the humidity vapor, ease of installation, no waste water, and low first operating cost. Designated the Model 42A-4 Humidifier, it can be used in small, low-ceiling rooms, as well as in larger areas.

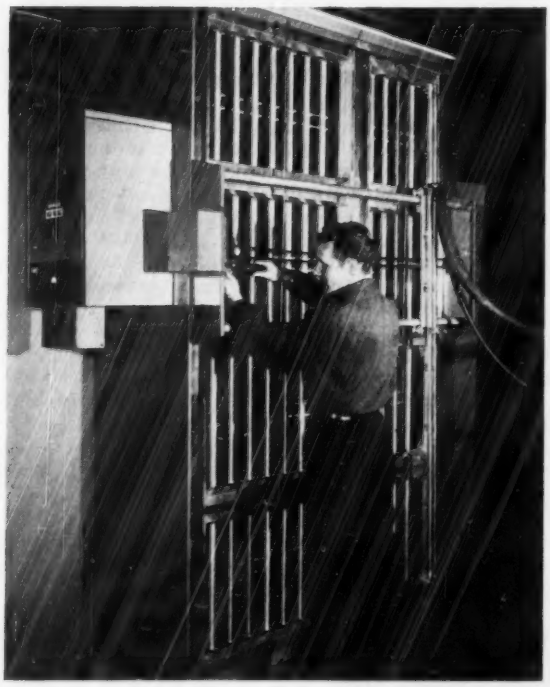
Built around a powerful vertical motor, this humidifier utilizes centrifugal force to atomize water. Action is simple—only one moving part.

A dial-type control (Model 32-W Humidostat) is available to make operation of the unit completely automatic.

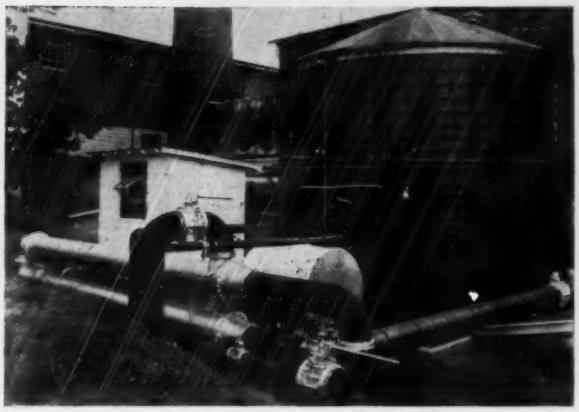
The Standard Engineering Works, Pawtucket, R. I.

Do you want more data? Write ◂ or use card on page 183; list L-116

Protects stock in process and employee health



Trion electric air filters screen such solids as lint from incoming air, electrically charge all dust particles that pass the first filters, and then trap the positively charged particles against negative plates in a second battery



FAIRFOREST SAVES MONEY ON FUEL BILL WITH APCO HEAT RECLAIMER

Through the installation of an APCO Heat Reclaimer in the Fairforest Finishing Division of Reeves Brothers, an estimated 25%-30% savings in the fuel bill resulted.

An equivalent of an additional 30,000 to 35,000 pounds of steam per hour was made available to Fairforest by the APCO System, accounting for the fuel savings.

THE HIGH VELOCITY NON-CLOG APCO DESIGN CAN SAVE YOUR PLANT MONEY!

By reclaiming the heat from waste effluent, the APCO Heat Reclaimer can save *you* money also, while increasing the capacity of your boiler by 30%.

Depending on the amount of hot effluent you are presently wasting, the APCO Reclaimer will probably amortize itself in one or two years. From then on, the profit's all yours.

Ask your plant engineer about the value of heat in your own waste water, and write for details on other APCO installations today.

AGENTS IN MAJOR TEXTILE MANUFACTURING CENTERS

APPLIED ENGINEERING COMPANY
INCORPORATED

ORANGEBURG, S. C.

Write for Free Information on Johnson Textile Machinery Replacement Bearings

The ordering of maintenance material for textile machinery is simplified with this new Johnson folder which illustrates and describes a wide range of bearings for several leading makes of textile equipment.

You can order in confidence for Johnson Bearings are made to the exact specifications of the original equipment. The design of each bearing, its alloy, size-tolerances and oil grooving all are identical with the bearing to be replaced.

For your free copy of this Johnson Textile Bearing Folder JBL-9, write Johnson Bronze Company, 550 S. Mill Street, New Castle, Pa.

Johnson Textile Bearings

Subsidiary: Apex Bronze Foundry Co., Oakland, Cal.

AT YOUR SERVICE!

Southern Sizing's skilled technicians are available to your mill at any time, with service that will make your work run better.

Service Sells Size and Southern Sizing Salesmen Sell Service . . . AND good old Southern Size.

SOUTHERN SIZING COMPANY
EAST POINT, GA.

of filters. A spray wheel humidifier then introduces the required amount of moisture into the plant. Smoke, soot, dust, bacteria, etc., are thus removed from the plant atmosphere and prevented from damaging employee health and work in process.

An integral flushing system permits the filters to be washed down by simply turning a valve and waiting until the accumulated screenings are carried down the drains.

Trion, Inc., 1000 Island Ave., McKees Rocks, Pa.

Do you want more data? Write ◂ or use card on page 183; list L-117

Yarn tension device aids seamless hose knitting

When ladies' seamless hosiery knitting machines are equipped with the Crabtree "Telepathic Compensator," a device that eliminates variation in yarn tension, better control of stocking length is provided, fewer seconds are made, and waste is reduced. On two-feed seamless machines, two of these tension control units make easy the equalization of tension on the two yarns which are fed simultaneously.

Another application of the device is for testing the efficiency of thread guides and tensions. Once it is set for the yarn being processed, the tension automatically adjusts itself to varying machine speeds.

The Telepathic Compensator consists essentially of a light pivoted arm mounted on clock-type bearings and arranged so that the tension of the yarn entering the device deflects this arm which is delicately biased by a hair spring. The amount of deflection of this arm controls through a guide mounted on it, the length of the arc of contact the yarn makes with the glass cylinder mounted eccentrically to the pivot of the arm. Hence, the deflection, produced by the tension itself present in the yarn, causes more or less "drag" to be applied to the yarn by the glass surface, thus counteracting the variations. By adjusting the strength of the hair-spring and the position of the glass cylinder the compensating factor can be made less than, equal to, or greater than, unity. With the compensating factor of unity, yarn having an even tension is fed to the machine. The amount of constant tension from the compensator is sufficient without addition of other tension devices.

Also available to facilitate use of Agilon type yarns on knitting machines is the Crabtree "Universal Yarn Controller," a yarn package holder which applies tension (it may be varied) to yarn leaving the package by taking it over highly polished perspex surfaces and through a ceramic eyelet.

Knitrol Div., Uster Corp., 2516 Wilkinson Blvd., Charlotte, N. C.

Do you want more data? Write ◂ or use card on page 183; list L-118

Checks fastness by daylight and sunlight methods

A new "Fade-Ometer," Model FDA-RC, is equipped with an electrically operated atomizer and cycle meter, permitting it to be operated either under conditions simulating the cycling effect and high humidity conditions encountered in the daylight exposure method or under

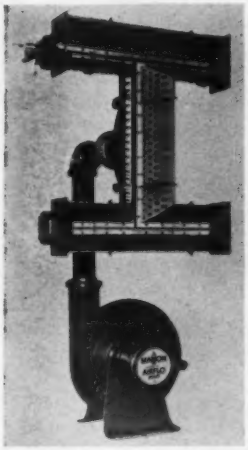
conditions which produce good correlation with the sunlight exposure method where the samples are exposed to sunlight between 9 am and 3 pm.

Machines now in use can be economically converted into the Model FDA-RC by the addition of the new features.

Atlas Electric Devices Co., 4114 N. Ravenswood Ave., Chicago 13, Ill.

Do you want more data? Write ◂ or use card on page 183; list L-119

Gas burner system for hot air drying



Wherever hot air in motion is used for drying or curing processes, the new Airflo Gas Burner System provides extreme flexibility of temperatures and loads because of its 25-to-1 throttling range. Based upon the principle of utilizing some oxygen from the stream of air being heated, the apparatus may be used on either recirculating or single-flow systems.

The burner with its stainless steel mixing plates mounts directly in the duct carrying the stream of air to be heated, and the mixer unit delivering carefully proportioned air-gas mixture to the line burner is mounted outside the duct. Control of firing rate by means of a single lever makes automatic control very simple.

Maxon Premix Burner Co., 201 E. 18th St., Muncey, Ind.

Do you want more data? Write ◂ or use card on page 183; list L-120

Set knitting yarn feed quickly, accurately

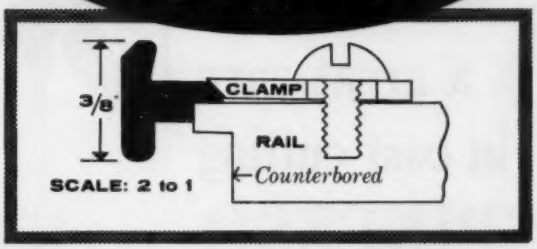
Among the advantages offered by the H.A.T.R.A. Yarn Speed Meter is that of quick and accurate setting (between ¼ and 1 minute per feed) of yarn feeds on revolving-cylinder knitting machines. On plain, rib or interlock and pattern knitting machines each feeder can be set to knit at the same stiffness. Poor quality fabrics of irregular appearance are thus reduced in incidence.

Relatively small in size and of a shape convenient to handle, the meter is light and can be carried about the plant in an overall pocket. The scale range, from 0 to 600 feet per minute, is adequate for almost all usual requirements and is graduated in units of 10. These graduations are sufficient to permit the user to adjust yarn speed within the 5% normally considered necessary in many fabrics for smooth texture.

Scott & Williams, Inc., Brinton Fabrics Machine Div., Laconia, N. H.

Do you want more data? Write ◂ or use card on page 183; list L-121

THIS 3/8" DEEP "BACKSLOPE" RING MOUNTS RIGHT IN YOUR RAIL



This shows how easily a narrow vertical ring fits directly into the rail with simple clamp and counterboring.

"BACKSLOPE" LITERATURE ON REQUEST

WHITINSVILLE (MASS.) SPINNING RING CO.
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Makers of Spinning and Twister Rings since 1873

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of High Pile Knit Goods

- Apply by brush or roller
- Cures at low temperatures
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- Is non-flammable

Contact us for custom tailored latex compounds for rugs, upholstery, curled hair and non-woven materials.

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spinning a great yarn in cost cutting SPINESSO®

What should be lubricated—when and with what? Dramatic cost cutting stories often begin with the understanding eyes and exacting care of your maintenance man. You will get greater protection for your machinery and minimize maintenance if you provide him with Spinesso oils.

Spinesso oils are especially formulated to meet the requirements of high-speed spinning and twisting spindles, and precision textile machinery. They resist sludging due to oxidation, assure clean, gum-free operation, and provide instant lubrication during critical warm-up periods. Spinesso is available in three outstanding grades for various spindle speeds.

For information on the complete line of Esso products designed for the textile industry or for technical assistance available through a conveniently located Esso Sales Service Laboratory, contact your local Esso office, or write: Industrial Lubricants Division, Esso Standard Oil Company, 15 West 51st Street, New York 19, N.Y.

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FREE BOOKLETS

11-1 PACKAGED BOILERS. Bulletin describes "Power-Pak" packaged automatic boilers in the 15 to 25 hp range. Designed for low-pressure steam or hot water heating. Orr & Sembower, Inc., Reading, Pa.

11-2 SIZE FOAMING. Bulletin gives cause and cure of foaming in the size applicator, a troublesome problem which most slasher operators experience at one time or another. Hubinger Company, 601 Main Street, Keokuk, Iowa.

11-3 TWIST-SETTING CARPET YARNS. Bulletin discusses twist-setting nylon spun yarns for use in carpets. Includes selection, construction, and handling. Textile Fibers Dept. E. I. Du Pont de Nemours & Co., Inc., Wilmington, Del.

11-4 TURBINE PUMPS. Bulletin illustrates and describes latest features incorporated in Apco Turbine Type Pumps. Aurora Pump Division, The New York Air Brake Co., Loucks Street, Aurora, Illinois.

11-5 PUNCHED-CARD METHODS. How Lisle Mills, Inc., knitters, got tighter control over operations with punched-card methods is treated in brochure. Bulletin U-1589, Remington Rand, 315 Park Ave., S., New York 16, N. Y.

11-6 CARPET BACKING. Brochure describes dimensional stability available in new double carpet backing. Patchogue-Plymouth Corp., 261 Madison Avenue, New York 16, New York.

11-7 MAPLE FLOORING. Specification manual gives physical characteristics, specifications, methods of laying, etc., for northern hard maple. Maple Flooring Manufacturers Association, Suite 548, Pure Oil Building, 35 E. Wacker Dr., Chicago 1, Ill.

11-8 DOW CHEMICAL PRODUCTS. General catalog lists properties and uses of 375 industrial, pharmaceutical, and agricultural chemicals. Dow Chemical Company, Midland, Michigan.

11-9 PIPING PRACTICE. Handy wall chart entitled "Recommended Piping Practice" is useful for installation and maintenance personnel, also buyers. Lunkenheimer Company, Cincinnati 14, Ohio.

11-10 ZEOLITE SOFTENERS. Data sheet describes the care and operation of zeolite softeners and covers various problems. Betz Laboratories, Inc., Gillingham & Worth Sts., Philadelphia 24, Pa.

11-11 OVERHEAD HANDLING CATALOG. Features engineered overhead handling systems of tracks, cranes, trolley, switches, etc. American MonoRail Co., 1111 E. 200th St., Euclid, Ohio.

11-12 BUTTON ROBOT. Folder describes new, automatic flat button feeder which is a work saver. Singer Sewing Machine Co., Dept. 256, 149 Broadway, New York 6, N. Y.

11-13 BELT EFFICIENCY. Catalog describes highly efficient belts which combine a polymer core with chrome tanned leather for high friction, great strength, and elasticity. Extremultus, Inc., 25-11 40th Avenue, Long Island 1, N. Y.

11-14 NEW DYE CARD. Comprehensive shade card for acid dyestuffs and two basic dyes has swatches. General Dyestuff Company, 435 Hudson St., New York 14, New York.

11-15 COLLOID MILLS. Brochure describes the design features of Colloid Mills used for application in textile dyes and colors. Chemicolloid Labs, Inc., 55 Herrick Rd., Garden City Park, Long Island, New York.

11-16 WATER HEATER. Catalog describes design, operation and construction features of packaged unit gas fired "Scalefree" storage water heater. Patterson-Kelley Co., Inc., E. Stroudsburg, Pa.

11-17 POTATO STARCH. Bulletin gives description of the characteristics and applications of potato starch in the textile industry. Morningstar-Paisley, Inc., 630 W. 51st Street, New York 19, N. Y.

11-18 NON-REVERSING STARTERS. Folder covers complete line of non-reversing combination starters through NEMA Size 4. Includes photos and enclosure dimensions. Cutler-Hammer, Inc., 361 N. 12th St., Milwaukee, Wisc.

11-19 DYEING ARNEL-COTTON. Report gives methods of solving problems involved in dyeing Arnel-cotton blends. Sandoz, Inc., 61 Van Dam St., New York 13, New York.

11-20 FORK LIFTS. Booklet describes increased operating efficiency, greater driver comfort and improved handling ease of "Stream-Liner" Series. Towmotor Corporation, 1226 East 152nd St., Cleveland 10, Ohio.

BOOKLETS

raw stock to roving

T-101 **LUMMUS PEPPER - SHAKER OPENER.** Gives complete details and protographs. Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

T-102 **STATIC ELIMINATION.** How to eliminate static safely and inexpensively. Simco Co., 920 Walnut St., Lansdale, Pa.

T-103 **CARD GRINDING INFORMATION.** Care and operation of cards. B. S. Roy & Son Co., Worcester, Mass.

T-104 **CARD CLOTHING.** Describes Strip-O-Matic Card Clothing. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia, Pa.

T-105 **VERSA - MATIC DRAWING FRAME.** Describes drafting elements, quality of sliver, roving and yarn possible. Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

T-106 **SARGENT OPENER.** Describes opener with rotary evener and stripper. C. G. Sargent's Sons Corp., Graniteville, Mass.

T-107 **FEATHERTOUCH DRAFTING.** How to get "highest production per frame at lowest cost." Ideal Industries, Inc., Bessemer City, N. C.

T-110 **BOBBINS.** Catalog describes metal, wood and plastic bobbins. Illustrations show actual use. Lestershire Spool Div., National Vulcanized Fibre Co., Wilmington, Del.

T-111 **MAGNETIC IDEAS.** Booklet shows uses of permanent magnetic separation equipment in opening room as well as throughout mill. Removes tramp iron, prevents fires. Eriez Mfg. Co., Erie, Pa.

T-112 **ADVANTAGES OF ALDRICH PICKERS.** Good technical text, comprehensive pictures. Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

T-113 **NEW CONDENSER TAPE.** Describes Supr-O-Tape, an impregnated fabric condenser tape. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia 34, Pa.

T-119 **FIBER METER.** Automatic weighing and blending assures quality, holds variation to 1%. James Hunter, Inc., P. O. Box 298, Mauldin, S. C.

T-120 **PIN DRAFTERS.** Textile job report No. 21 tells how Warner & Swasey Pin Drafters help modify jute systems for carpet yarns. Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3, Ohio.

T-121 **UNIVERSAL CARD COILER.** Literature describes both head and base swivel for adjustment. Includes data on 90-day free trial. McDonough Power Equipment, Inc., McDonough, Ga.

T-122 **RECONDITION OPENING & CLEANING.** Bulletin gives whys and wherefores of reconditioning your opening and cleaning lines. Special attention given to each machine with suggestions as to parts replacement. Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

T-123 **COILER CONVERSIONS.** Full facts on low initial cost conversion to larger coiler cans. Lists advantages, has complete description. Southern States Equipment Corp., Hampton, Ga.

T-124 **CARD DRIVE.** Bulletin 301-a describes simple, safe, efficient individual card drive. Southern States Equipment Corp., Hampton, Ga.

T-132 **PROCTOR SUPER PICKER.** Data sheet gives details of the Proctor Super Picker for use on slabs of baled cotton, or wool and synthetic blends in layers up to 12" thick. Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

T-133 **ANTI-STATIC AGENT.** Data sheet lists basic characteristics of liquid anti-static agent which eliminates processing difficulties with fibers due to static electricity. E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

yarn and warp making

T-201 **PRODUCTS FOR SPINNING AND WEAVING.** Complete line, applications, advantages shown. Dayton Rubber Co., Textile Div., Dayton, Ohio.

T-202 **NEW BOBBIN MANUAL.** Complete bobbin guide. Lestershire Spool Division, National Vulcanized Fibre Co., Wilmington 99, Delaware.

T-203 **SPINDLE OIL.** "Gulfspin" insures against excessive wear and eliminates spindle wobble. Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.

T-205 **HIGH SPEED AUTOMATIC QUILLER.** Lists advantages and dimensions of "Autocopser." Terrell Machine Co., Inc., P. O. Box 928, Charlotte, N. C.

T-208 **PACKAGED SPINNING MODERNIZATION.** Details on Collecto-Vac, Open-Aire Creels, Cross-Jet Cleaner, Air Conditioning. Bahnson Company, Winston-Salem, N. C.

T-209 **SECTIONAL WARPER.** Describes full width and sectional warpers for knitting, weaving. Robert Reiner, Inc., Weehawken, New Jersey.

T-210 **CONICAL RINGS AND FLYERS.** Complete details and specifications. Herr Manufacturing Co., Inc., 318 Franklin St., Buffalo 2, New York.

T-211 **PRECISE WINDING MACHINE.** For winding pineapple or straight cones and tubes of synthetics. Foster Machine Co., Westfield, Mass.

T-212 **AUTOMATIC CLEANING EQUIPMENT.** Working details and advantages of the Tri-Rail Cleaner. American MonoRail Co., 111 East 200th St., Cleveland 17, Ohio.

T-216 **SPINNING FRAME CONVERSIONS.** Big-package, new-frame results at half the cost. Meadows Mfg. Co., P. O. Box 10876, Station A, Atlanta, Ga.

T-217 **COLLECTO-VAC.** New development collects lint, fly and broken ends. The Bahnson Company, Winston-Salem, N. C.

T-219 **SPINNING AND TWISTER RINGS.** Complete details, pictures, price list. Whitinsville Spinning Ring Co., Whitinsville, Mass.

T-222 **SUCTION CLEANING SYSTEM.** Details on new Collector Unit Model C-4. Pneumafil Corp., Charlotte 6, N. C.

T-223 **FACTS ABOUT YOUR FLYERS AND SPINDLES.** Advantages of smooth flyer and spindle operation. Ideal Machine Shops, Bessemer City, N. C.

T-225 **LAPLESS ENDLESS SPINNER.** Full information available. Ton-Tex Corporation, 31 Columbus Ave., Englewood, N. J.

T-226 **WORSTED SPINNING.** Describes five stages from top to yarn. Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

T-227 **SPINDLE OILING MACHINE.** Features and advantages noted. Wicaco Machine Corp., 4900 Stenton Ave., Wayne Junction, Philadelphia 44, Pa.

T-228 **HANDY SPINNING REFERENCE.** Shows traveler speeds, sizes of ring flanges. Victor Ring Traveler Co., Providence, R. I., and Gastonia, N. C.

T-229 **UNIRAIL UPTWISTER.** Higher yarn quality and better packages at faster speeds. Leesona Corp., P. O. Box 1605, Providence, R. I.

T-230 **PRECISION TEXTILE WINDING.** Tensions and density control for winding rubber cones. Kidde Textile Machinery Corp., Farrand St., Bloomfield, N. J.

T-231 **CONE WINDER.** Describes Model 102 winder, including applications. Foster Machine Co., Westfield, Mass.

T-232 **SHORT CUT TO STAPLE FIBER SPINNING.** Ten steps in operation of the Tow Stapler. Turbo Machine Co., Lansdale, Pa.

T-233 **WEAVER'S KNOTTER.** Instructions as to use, description. A. B. Carter, Inc., Gastonia, N. C.

T-234 **TEXTILE ROLL COVERINGS.** Describes complete line as well as other mill supplies. Armstrong Cork Co., Industrial Div., Lancaster, Pa.

T-239 **LARGE PACKAGE TWISTER.** Information on new anti-friction Jumbo Twister which carries a 14" bobbin with a 12" build. Meadows Mfg. Co., P. O. Box 10876, Sta. A, Atlanta, Ga.

T-241 **PACEMAKER TWISTERS.** Folder gives details on high production, outlines notable features. Whitin Machine Works, Whitinsville, Mass.

T-242 **RING SPINNING FRAME.** Folder presents description, illustrations and specifications of up-to-date Simplex ring spinning frames. Davis & Furber Machine Co., North Andover, Mass.

T-243 **ANTI-FRICTION TWISTER BEARINGS.** Find out how bearings helped make The Meadows Twister almost friction-free. Fafnir Bearing Company, New Britain, Conn.

T-246 **BETTER BEAMS.** Information on three ways to make better beams. Kidde Textile Machinery Corp., Farrand St., Bloomfield, N. J.

T-249 **VARI-SPEED MOTOR PULLEY.** Describes variable speed control through use of simplified three-major-part disc-assemblies with only one lubrication point. Reeves Pulley Co., Reliance Electric & Engineering Co., Columbus, Ind.

T-250 **SPINNING MODERNIZATION** Booklet shows how lower costs and improved quality are obtained by spinning modernization. Roberts Company, Sanford, N. C.

BOOKLETS

T-255 **NEW BOBBIN HOLDER.** Details on streamlined, positive latching bobbin holder. Whitehead Die Casting Co., 1140 Zonolite Rd., Atlanta, Ga.

slashing—weaving—tufting

T-301 **COUNTING AND MEASURING DEVICES.** Wide range of counting devices for all types of textile machinery. Veeder-Root, Inc., Hartford, Conn.

T-302 **LOOM SUPPLIES.** Describes complete line. E. H. Jacobs Northern Division, The Bullard Clark Co., Danielson, Conn.

T-304 **LOOM PRODUCTION CHARTS.** Celluloid card shows yards per loom per week. Ralph E. Loper Co., Greenville, S. C.

T-306 **THE STORY OF STARCHES.** History and information on manufacture and use of starches. National Starch & Chemical Corp., 750 Third Ave., New York 17, N. Y.

T-308 **STEEL WARP BEAMS.** Beams for both broadloom and narrow fabrics. Milton Machine Works, Inc., Milton, Pa.

T-309 **PENFORD GUMS IN TEXTILES.** Describes their excellent properties for warp sizing spun yarns. Penick & Ford Ltd., Inc., 750 Third Ave., New York 17, New York.

T-312 **AIR SLASHER DRYER.** Shows construction and operating details. Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

T-313 **BUTT-TACKING SEWING MACHINE.** Describes operation, installation of single thread butt-tacking sewing machine. The Merrow Machine Co., 28 Laurel St., Hartford, Conn.

T-314 **LOOM REED BOOKLET.** Describes in detail a variety of reeds. Steel Heddle Mfg. Co., 2100 West Allegheny Ave., Philadelphia 32, Pa.

T-315 **COCKER EQUIPMENT.** Information on warp sizer, beam warper, creels, tensions, back-winders, etc. Cocker Machine & Foundry Co., Gastonia, N. C.

T-318 **FORMULAS FOR SLASHING ARNEL.** Includes also information on warping, weaving and quilling. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte 1, N. C.

T-319 **ECLIPSE STARCHES FOR TEXTILES.** Data sheet describes use of thin-boiling starches in the textile industry, with particular emphasis on warp sizing. Physical and chemical data included. A. E. Staley Mfg. Co., Decatur, Ill.

T-321 **COCKER SLASHERS.** Complete specifications and advantages, including allied equipment. Cocker Machine & Foundry Co., Gastonia, N. C.

T-322 **MOUNTS FOR LOOMS.** Vinyl mount eliminates need for bolts or paste. Clark, Cutler, McDermott Co., 106 W. Central St., Franklin, Mass.

T-323 **UNIFIL LOOM WINDER.** Describes new concept of filling preparation which needs no quilling area. Leesona Corp., P. O. Box 1605, Providence, R. I.

T-324 **ALIGNING LAYS.** Setting instructions for step-by-step aligning. Draper Corporation, Hopedale, Mass.

T-325 **TRAVELING LOOM CLEANER.** Advantages of the new Oscillaire loom cleaner. Parks-Cramer Co., Fitchburg, Mass.

T-326 **DRAPER REPAIR PARTS CATALOG.** Contains illustrations covering all mechanisms and construction with complete listings. Draper Corporation, Hopedale, Mass.

T-327 **BALING PRESSES.** Describes complete line of motor-driven and hydraulic baling presses. Logemann Brothers Co., 3150 West Burleigh St., Milwaukee, Wis.

T-328 **TEXTILE MACHINERY PARTS CATALOG.** Describes complete line of Dayco and Thorobred textile parts. Dayton Rubber Co., Dayton, Ohio.

T-329 **COUNTING DEVICES.** Describes complete line of counters for every application. Trumeter Company, 38 W. 32nd St., New York 1, New York.

T-331 **STATIC BARS.** Humorously illustrates how static can be overcome. The Simco Co., 920 Walnut St., Lansdale, Pa.

T-332 **CARE OF DRAPER SHUTTLES.** Describes how longer, trouble-free service may be obtained. Draper Corporation, Hopedale, Mass.

T-334 **LARGEST SLASHER ORDER IN HISTORY.** Folder tells why Springs Cotton Mills bought 25 multi-cylinder slashers. West Point Foundry & Machine Co., West Point, Ga.

T-336 **ONE-PIECE SIZING AGENT.** Houghto-Size CW provides low kettle cost, results in free-running warp of high breaking strength, increasing weaving efficiency. E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

T-346 **FACTS ON NON-WOVENS.** Fact file on non-wovens tells of new machinery, new methods of handling fibers, new bonding agents, etc. Curlator Corporation, Textile Div., E. Rochester, N. Y.

T-347 **NEW DRYING SYSTEM.** Describes high capacity, custom engineered drying equipment for tufted plants. Dalton Sheet Metal Co., Inc., Dalton, Ga.

T-351 **AUTOMATIC STOP MOTION.** Complete information available on automatic stop motion for Titan warp tying-in machine. Edda International Corp., 468 Fourth Ave., New York 16, N. Y.

T-353 **BACKING FOR TUFTEDS.** How to get your tufting necessities with one telephone call. Fulton Cotton Mills, P. O. Box 1726, Atlanta 1, Ga.

T-355 **NON-WOVEN FABRICS.** Booklet gives outline of nature and history of non-woven and the manufacturing techniques of today. Booklet 56-219A, Chemical Div., Goodyear Tire & Rubber Co., Akron 16, Ohio.

T-358 **LOOM SUPPLIES.** Information on rod lubricant and applicator, sponge leather bunter, picker. Garland Mfg. Co., 54 Water St., Saco, Me.

T-360 **SUPPLIES FOR TUFTERS.** Information on yarns for rug tufting or chenille or carpet backing. Piedmont Cotton Mills, East Point, Ga.

T-361 **ECLIPSE STARCHES FOR TEXTILES.** Data sheet describes use of thin-boiling starches in the textile industry, with particular emphasis on warp sizing. Physical and chemical data included. A. E. Staley Mfg. Co., Decatur, Ill.

T-362 **SIZE THAT SATISFIES.** Information on getting the correct size package for your mill. Also on Bingham line of slasher rolls. Stodghill & Co., 716 Ponce de Leon Place, Atlanta, Georgia.

T-363 **RUBBER COVERED SLASHER ROLLS.** Handy booklet tells how to get longer life and better performance from rubber covered rolls. Includes data on handling, storing and grinding. Stowe-Woodward, Inc., Dept. C., 181 Oak St., Newton Upper Falls 64, Mass.

knitting

T-401 **SINGLEHEAD FULL - FASHIONED MACHINE.** Literature on request from the Wildman-Jacquard Div., Draper Corp., Hopedale, Mass.

T-403 **RASCHEL KNITTER.** Describes new Raschel-type knitting machine. Kiddie Textile Machinery Corp., Inc., Farrand St., Bloomfield, N. J.

T-406 **NEEDLE OIL DOES NOT STAIN.** Details on "Gulftex 39" developed for knitting mills. Gulf Oil Corp., P. O. Box 1106, Pittsburgh 30, Pa.

T-407 **KNITTING MACHINES.** Information on Wildman "TFS" 30" single section F-F machines and "AL" 32" diameter 32-feed "single purpose" circular interlock machine (rib type) Wildman-Jacquard Div., Draper Corp., Hopedale, Mass.

T-409 **KNIT GOODS FINISHING MACHINERY.** Data on calenders, shrinkers, curers, extractors, steamers. Tubular Textile Machinery Corp., 33-61 54th St., Woodside, N. Y.

T-410 **"READING" TYPE 60 F-F KNITTING MACHINE.** Information about the new "Reading" Type 60, 38-section automatic full-fashioned hosiery knitting machine. Write Textile Machine Works, Reading, Pa.

wet processing

T-500 **CLOTH GUIDES.** Bulletin 22.1 provides application diagrams and illustrations. GPE Controls, Inc., 240 E Ontario St., Chicago 11, Ill.

T-501 **TUBES FOR PACKAGE DYEING.** Describes Dytex tubes for one-time use. Sonoco Products Co., Hartsville, S. C.

T-502 **FINISHING MACHINERY.** Text and photographs of complete line of machinery. Marshall and Williams Corp., 46 Baker St., Providence, R. I.

T-503 **WATER ANALYSIS.** Includes tables, conversion factors, indicators, standard solutions. Solvay Process Div., Allied Chemical Corp., 61 Broadway, New York 6, N. Y.

T-504 **UREA FORMALDEHYDE.** Literature on urea formaldehyde or U.F. concentrate-85. Dept. CUFI-29-1, Nitrogen Div., Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-506 **CATIONIC SURFACE ACTIVE AGENT.** Describes Uversoft "D." Harshaw Chemical Co., 1945 East 97th St., Cleveland 6, Ohio.

T-507 **CONTINUOUS STARCH COOKER.** Booklet shows how the use of continuous cookers for starch assures accurate control, economy, low maintenance in warp sizing and finishing. Clinton Corn Processing Company, Clinton, Iowa.

BOOKLETS

T-508 PEROXIDE BLEACHING SYSTEM. Illustrates and describes this continuous system. E. I. du Pont de Nemours & Co., Electrochemical Dept., Wilmington, Del.

T-510 TEXTILE CHEMICALS. Describes leading products for wet processors. Royce Chemical Co., Carlton Hill, N. J.

T-512 DEPUMA. Describes odorless, viscous, non-evaporating emulsion for anti-foam. Koppers Co., Inc., Chemicals & Dyestuffs Div., 2010 Clarke Bldg., Pittsburgh 19, Pa.

T-513 CATALYST AC-6. Tells how curing efficiency may be stepped up as much as 25%. Monsanto Chemical Co., Plastic Division, Springfield 2, Mass.

T-514 SODA ASH BULLETIN. Contains useful data covering this subject. Solvay Sales Division Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-516 ALUMINUM CHELATE PEA-1. Technical data sheet tells how aluminum Chelate PEA-1 may be used with advantage in many applications where aluminum is propiate is unsatisfactory. Harshaw Chemical Co., 1945 East 97th St., Cleveland 6, Ohio.

T-517 CHEMICAL CATALOG. Lists products with chemical composition, properties and applications. Antara Chemicals Div., General Aniline & Film Corp., 435 Hudson St., New York 14, New York.

T-519 HYDRAULIC POWER UNITS. Describes unit for operating hydraulic textile machines. B. F. Perkins & Son, Inc., Holyoke, Mass.

T-522 CUT WATER TREATMENT COSTS. Describes the control of scale, slime, algae and corrosion. Oakite Products, Inc., 126C Rector St., New York 6, New York.

T-526 HYCAR LATICES. Physical properties and typical fields of application. B. F. Goodrich Chemical Co., 3135 Euclid Ave., Cleveland 15, O.

T-527 SODIUM HYDROSULFITE. Literature and test samples are available on "T-C Hydro." Tennessee Corp., 617-629 Grant Bldg., Atlanta, Ga.

T-528 ETHANOLAMINES. Lists application, chemical and physical properties. Nitrogen Division, Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-531 ROTARY DYEING MACHINE. For use in dyeing hosiery, hats, gloves, socks, etc. Turbo Machine Co., Lansdale, Pa.

T-534 DYEING AND FINISHING MACHINERY. Complete line presented in series of catalogs. Birch Brothers, Inc., 33 Kent St., Somerville 43, Mass.

T-535 DYEING, BLEACHING AND DRYING EQUIPMENT. Complete line for cotton, wool and synthetics described. Color pictures. Morton Machine Works, 1718 3rd Ave., Columbus, Ga.

T-536 NAPTHOL RATIOS SLIDE CHART. Quickly and accurately enables operators to determine Napthol Ratios. Alliance Color & Chemical Co., 33 Ave. P, Newark 5, New Jersey.

T-540 PENFORD FINISHING GUMS. Complete data, including physical properties. Penick & Ford Ltd., Inc., 750 Third Ave., New York 17, New York.

T-541 REGENERATION OF ZEOLITE WATER SOFTENERS. Explains advantages of Lixate Process. International Salt Co., Scranton, Pennsylvania.

T-542 DYEING SYNTHETIC FIBERS. Detailed analysis of methods and materials. General Dyestuff Co., 435 Hudson St., New York 14, New York.

T-543 INDUSTRIAL BRUSHES. Features use on shears, printing machines. M. W. Jenkins' Sons, Inc., 444 Pompton Ave., Cedar Grove, N. J.

T-544 WASTE HEAT RECOVERY Describes system of waste heat recovery from polluted water. Ludell Mfg. Company, 5200 West State Street, Milwaukee, Wis.

T-545 WASHERS FOR SCOURING, BLEACHING, ACIDIFYING. Describes highcapacity, continuous process washers. C. G. Sargent's Sons Corp., Graniteville, Mass.

T-546 NAPHTHOL FOR LIGHTFAST BROWNS. Booklet describes new, straight, non-substantive naphthol, Naphthol As-BN, for the continuous naphtholation of cotton and rayon piece goods in the dyeing of economical, fast-to-light browns. General Dyestuff Co., 435 Hudson St., New York 14, New York.

T-547 SOFTENER, LUBRICANT, NAPPING AID. Technical information available on softener, lubricant and napping aid for natural and synthetic fibers, yarns and fabrics. Nopco Chemical Co., Harrison, N. J.

T-548 HANDBOOK ON METHOCEL. Gives technical information and use data on family of methylecellulose ethers called Methocel. Organic Chemicals Sales, The Dow Chemical Co., Midland, Mich.

T-549 WALL CHARTS FOR HANDLING, TESTING H_2O_2. Two 16" x 21" wall charts available, one on handling and the other on testing H_2O_2. Becco Chemical Div., Food Machinery & Chemical Corp., Buffalo 7, N. Y.

T-550 POLYVINYL ACETATE EMULSION. Bulletin contains a description of Celanese emulsions and cites advantages of Celanese polyvinyl acetate emulsions in textile finishing. Celanese Corp. of America, Plastics Div., 744 Broad St., Newark 2, N. J.

T-554 INSTRUMENT CATALOG. Complete information on industrial instrument accessories and supplies. Includes specifications, parts numbers and prices. Catalog 500, Foxboro Co., Foxboro, Mass.

T-556 HUNTER DYEING EQUIPMENT. Describes fully with diagrams Hunter Model A Dye Becks, Hunter No/Lap Reels, Model S Dye Kettles, Open Width Dye Kettles, Sample Dye Kettles. James Hunter Machine Co., North Adams, Mass.

T-557 HIGH ACTIVITY CATALYST. Technical bulletin describes new catalyst AC-6 which provides increased activity, excellent bath life, minimum odor formation, etc. Monsanto Chemical Co., Plastics Div., Springfield, Mass.

T-558 CATIONIC DYE LEVELER. Bulletin TX-34 gives new information on dye leveler for acid colors on nylon tricot and wool through use of Nopco 1425-B. Nopco Chemical Co., Textile Chemicals Div., Harrison, N. J.

T-559 FLOW CONTROL Complete information on largest selection of values to handle flow control requirements. William Powell Co., 2525 Spring Grove Ave., Cincinnati 22, Ohio.

T-561 PUMP POURABLE PASTES. Bulletin tells how Moyno pumps can pump any textile liquid that can be forced through a pipe, even if highly viscous or corrosive. Robbins & Myers, Inc., Springfield, Ohio.

T-563 POLYETHYLENE FINISHING AGENT. Booklet contains information needed to adopt Emulsifiable A-C polyethylene as a finishing agent to any particular process. Semet-Solvay Petrochemical Div., Allied Chemical Corp., 5th Floor T, Rector Street, New York 6, N. Y.

T-564 HYDROGEN PEROXIDE BLEACHING. Booklet discusses advantages, operating details and savings in chemical costs of Activated Hydrogen Peroxide Bleaching Process for Cotton. Solvay Process Div., Allied Chemical Corp., 61 Broadway, New York 6, N. Y.

T-566 ETHYLEX GUMS. Brochure describes properties of hydroxy ethyl ether derivatives of corn starch. Applications of these noncongealing gums in warp sizing and finishing covered. A. E. Staley Mfg. Co., Box 151, Decatur, Ill.

T-570 CARPET DRYERS. Details, pictures, drawings on driven roll, conveyor, and tenter types. Andrews and Goodrich Div., 336 Adams St., Boston Dorchester, Mass.

T-571 CHAINLESS MERCERIZING MACHINE. Two new bulletins provide complete information on the Benninger Chainless Mercerizing Machine for piece goods. H. W. Butterworth & Sons Co., Bethayres, Pa.

T-572 DYEING MACHINERY FOR EVERY PURPOSE. Illustrated literature available on complete line of automatically controlled machinery. Gaston County Dyeing Machine Co., Stanley, N. C.

T-576 YARN PREPARATION. Describes products for yarn preparation, printing, finishing. Polymer Industries, Springdale, Conn.

T-577 STAINLESS DRY CANS. Information on stainless steel, 75 psi, reverse dished, head dry cans. Can be furnished Teflon-coated if desired. Sims Metal Works, West Point, Ga.

T-579 AUTOMATIC GUIDING EQUIPMENT. Catalog shows various types of automatic guiding equipment for accurate cloth guiding. Fife Mfg. Co., Inc., P. O. Box 9815, Oklahoma City, Okla.

fibers and yarns

T-601 FORTISAN-36, NEW TEXTILE FIBER. Includes charts, diagrams, text, presents technical properties. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte, N. C.

T-602 CAPROLAN NYLON HEAVY YARNS. Describes strength, long flex life and ready dyeability. Fiber Sales Dept., National Aniline Div., 261 Madison Ave., New York 16, N. Y.

T-603 RAYON—MILE BY MILE. Details on how rayon is produced mile by mile, perfect inch by inch. Industrial Rayon Corp., 500 Fifth Avenue, New York 18, N. Y.

T-604 THE CHEMSTRAND NYLON STORY. Describes the birth and growth of Chemstrand Nylon. Chemstrand Corp., 350 Fifth Ave., New York 1, N. Y.

T-605 COLOR-FAST FIBERS. Further information on "Coloray," Courtauld's solution dyed rayon staple which is a contribution to colorfastness in fabrics. Courtaulds (Alabama) Inc., 600 Fifth Ave., New York 20, N. Y.

T-606 "DIAL-A-FIBER." Ingenious circular chart indicates properties and compatabilities of "Uvitex" for application on natural and synthetic fibers. Ciba Co., Inc., Route 208, Fair Lawn, New Jersey.

T-607 THE STORY ON LUREX. Information on metallic yarns made with Mylar and how they are developed to broaden the scope of the tufted industry. Textile Fibers Dept., The Dow Chemical Co., James River Div., Williamsburg, Va.

PERSONAL NOTES

(from page 37)

as follows: **J. H. Robbins,** Seminole Mills at Clearwater, S. C.; **Jackson L. Weldon,** Union Plants, Union-Buffalo Mills, Union, S. C.; and **H. R. Hoke,** Aragon Mills, Aragon, Ga.

Ernest R. Kaswell, president of Fabric Research Laboratories, was elected president of the Fiber Society at the organization's recent annual meeting in Princeton, N. J. Elected vice-president was **Dr. Stanley Backer,** associate professor of

Mr. Kaswell

Mr. Backer

mechanical engineering at the Massachusetts Institute of Technology. Re-elected to the offices of secretary and treasurer, respectively, were **Julian S. Jacobs,** recently retired editor of "Textile Research Journal," and **Dr. Hugh M. Brown,** research consultant of Clemson, S. C. A highlight of the meeting was presentation of the Society's first Distinguished Service Award to Mr. Jacobs for his "faithful and eminent service to the field of fiber science." In the accompanying photograph Mr.

Jacobs (right) is shown receiving the award from S. Jack Davis of The Chemstrand Corp., outgoing president of the Society. Now residing in Athens, Ga., Mr. Jacobs continues his connection with the publication in a consulting capacity.

E. Franklin Bohl, manager of the piece dyeing division of Allentown (Pa.) Converting Co., has been elected president and general manager of the company, succeeding the late Vivian C. McCollom.

Dan River Mills, Inc., has announced the appointment of **Ralph S. Hoisington** as assistant to A. B. Emmert, vice-president in charge of raw material procurement. Mr. Hoisington was formerly with Anderson, Clayton & Co.

Michael Kopec has been named vice-president of Schwarzenbach Huber Co., in charge of the Luray (Va.) division.

William B. Younger has been appointed general superintendent of Virginia Mills, Inc., Swepsonville, N. C. Mr. Younger succeeds W. W. Lambeth who was named a vice-president of the firm earlier this year.

Cecil Wills, consultant and plant superintendent of Halifax Corduroy, Ltd., Montreal, Canada, has assumed his duties in the newly created post of vice-president in charge of production.

Roxbury Southern Mills, Inc., Chattanooga, Tenn., has appointed **Elliott H. Johnston** to the newly cre-

Mr. Johnston

ated position of chief stylist. Mr. Johnston was formerly with Artloom Industries.

W. T. Holliday has been promoted to supervisor of fabric development of the Ware Shoals (S. C.) division of Riegel Textile Corp., succeeding **Dale Kern** who has been elevated to quality control supervisor. **Wilson Mullinax** has been promoted to overseer of rayon finishing, the position formerly held by Mr. Holliday.

Ulrich B. Buchanan has been elected president of Vanette Hosiery Mills, Dallas, Texas, succeeding **Harker Collins,** who resigned.

Artistic Weaving Co., Pompton Lakes, N. J., has announced the appointment of **J. C. Lassiter, Jr.,** as its director of southern operations with headquarters at Chatham Mills, Inc.,

Continued on page 190

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PERSONAL NOTES

(from page 189)

in Pittsboro, N. C. Mr. Lassiter had previously been associated with Burroughs Corp. and Burlington Industries, Inc.

At the Elm City plant of Callaway Mills Co., LaGrange, Ga., **Gerald May** has been promoted to assistant overseer carding and spinning and

Mr. May
Callaway

Mr. Wright
Callaway

Grover C. Wright, Jr., assistant production supervisor. * * * At the Manchester (Ga.) plant **R. Kenneth Peterman** has been promoted to assistant overseer spinning, warping, and spooling. **Earl Wesley Ashley** has been advanced to assistant overseer of weaving. * * * **D. Vance Sanders** has been named superintendent of the Calumet plant, succeeding **Ted M. Hampton** who has retired. * * * **Fred Hand,** formerly sales engineer, has been named product development engineer for Valway plant products, research and development division. * * * At the Milstead plant **J. Franklin Foss** has been promoted to quality control supervisor and **Tyler C. Morgan** has been made assistant overseer of weaving. * * * **Charles W. Funderburk** and **Alex A. Scarborough** recently joined the research and development division as research chemists.

Mr. Hampton
Callaway

Mr. Sanders
Callaway

OBITUARIES

William E. H. Bell, 73, president of Klauder Weldon Giles Machine Co., Philadelphia, Pa.

John T. Carroll, Sr., 85, retired manager of Southern Mills, Inc., Atlanta, Ga.

Ormand Wesley Clark, 61, textile chemist with American Cyanamid Co., Bound Brook, N. J.

Walter C. Durfee, 76, formerly president of W. C. Durfee Co., Inc., Boston, Mass.

Grosvenor Ely, 75, retired textile executive, Warwick, N. Y.

Herman Fire, 77, sales representative for V. T. M. Finishing Corp. of Vitromar Piece Dye Works and others, Paterson, N. J.

Marion W. Heiss, 61, vice-president and director of Cone Mills Corp., Greensboro, N. C.

W. O. Holliday, 78, former superintendent of Apalache Plant, Greer, S. C.

Frank E. Matthews, 52, in charge of yarn procurement for Burlington Industries, Inc., Greensboro, N. C.

Vivian C. McCollom, 57, president of Allentown (Pa.) Converting Works and a director of the Silk and Rayon Printers and Dyers Assoc.

Hubert C. Patterson, Sr., 72, formerly president of Lillian Mills, Albemarle, N. C.

Paul A. Redmond, Jr., former president of Alabama Mills, Inc., Birmingham, Ala.

Thomas F. Robinson, 55, vice-president of the grey goods division of The Russell Manufacturing Co., Alexander City, Ala.

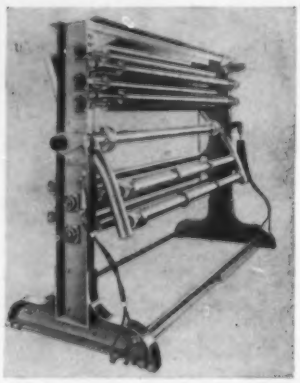
Henry G. Rollins, 67, retired J. P. Stevens & Co., Inc., executive, Shelby, N. C.

C. A. Schuttig, 64, vice-president and sales manager of The Arkansas Co., Inc., Newark, N. J.

Edwin Stein, Sr., 64, chairman of the board of Stein Hall & Co., Inc., New York, N. Y.

E. A. Stephens, Sr., 70, former president of Rocky Mountain Textile Mills, Denver, Colo.

Mrs. Charles M. Walker, chairman of Monroe (Ga.) Cotton Mills.



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Atlantic City, N. J.

May 23-27, 1960

MILL NOTES

Approximately $3.5 million will be spent to further improve the manufacturing facilities of **The American Thread Co., Inc.,** plants in Willimantic, Conn., Sevier, N. C., Clover, S. C., Dalton, and Tallapoosa, Ga., during the next year. One result of the streamlining of the firm's operations will be the closing of the Newnan, Ga., plant sometime after the first of the year. Major steps already in effect include the addition of new product lines and the installation of an electronic computer which is said to give the firm one of the most advanced data processing systems in the industry.

Part of the idle Granite Mill in Pascoag, R. I., will be utilized by **Andrew Worsted Mills, Inc.,** in an expansion program to be instituted shortly. Expansion will be gradual, according to company spokesmen.

Effective the latter part of September, **Beacon Mills** in Brooklyn, N. Y., changed its name to **Bomart Mills.** Personnel, styling, sales, and production policy remain unchanged, the name change being effected to avoid confusion with another firm with a similar name.

A 3,600 sq ft building has been erected between two existing structures by **Buffalo (N. Y.) Weaving and Belting Co.** in a $150,000 expansion move. The new facilities house equipment to manufacture fabric for major rubber companies which will use it as a central core for a new type of belting. The expansion has not increased the payroll.

Burlington Industries, Inc., has completed purchase of **Ivey Weavers, Inc.,** Hickory, N. C. Former president R. Walker Geitner has announced that he will no longer be associated with management of the mill. No other changes in management and supervisory personnel have been indicated. * * * Scottsboro (Ala.) Hosiery Co. and its parent firm, Burlington Hosiery Co., a member of the Burlington Industries organization, have initiated a major expansion program. New construction, expected to increase the Scottsboro plant's space by one-third, is scheduled for completion by the end of the year.

Building permits for additions to two plants in Gaffney, S. C., have been obtained by **Cherokee Finishing Co.** Construction has begun on an 80' x 260' addition to plant No. 2. The second permit calls for construction of a 10,000-sq ft basement at plant No. 1.

The Walhalla, S. C., plant of **Chicopee Manufacturing Corp.** and the Courtenay plant of **Abney Mills** in Newry, S. C., have established a policy designed to discourage employees from avoiding jury duty. The plan supplements the $7-per-day jury pay with a bonus so that the employee receives the same amount he would have made in a normal eight-hour day.

The plants of **Delaware Mills, Inc.,** in Frederica and New Castle, Del., have been shut down and personnel released. Management has announced the sale of all machinery and equipment to Comer Machinery Co., Atlanta, Ga.

The newly-formed Dunbar Combing Co., Inc., a subsidiary of **Barre (Mass.) Wool Combing Co., Ltd.,** has purchased the combing division of **Verdun Manufacturing Co.** in Woonsocket, R. I. The new firm will conduct a commission combing business in quarters to be leased from Verdun. John Wytrwal has been named plant manager at the new operation.

Bids have been requested for the remodeling and modernizing of the Durham, N. C., general offices building of **Erwin Mills, Inc.** Plans call for remodeling of the exterior of the building to conform with the architecture of a branch post office which

Continued on page 192

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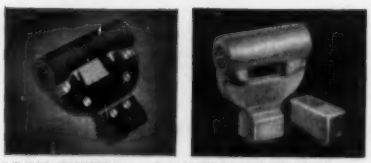

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Garland MANUFACTURING CO.

Also manufacturers of Nylon and Rawhide Hammers and Mallets.

56 WATER STREET • SACO, MAINE

MILL NOTES

(from page 191)

the firm proposes to build next door and lease to the federal government. Work on the firm's office building will be carried out whether or not the company is awarded the contract for the new post office, it was stated.

Firestone Tire & Rubber Co. has purchased a modern industrial plant in Hopewell, Va., from Celanese Corp. of America. It was stated that Firestone will utilize the entire property to produce its own nylon filament yarn for the production of tire cord. The company is said to be the first American rubber manufacturer to produce its own nylon tire yarn.

Following the recent purchase of the **Grantville (Ga.) Mills** by **Flagg-Utica Corp.**, the latter firm established a Grantville Mills Dyed Yarn Division. L. P. Muller & Co., Philadelphia, Pa., was named exclusive agent.

Air conditioning of the preboarding department, dye house, final boarding department, and stock room has been completed by **Hanes Hosiery Mills Co.**, Winston-Salem, N. C. According to a company spokesman, the installation makes Hanes the first hosiery mill to be completely air conditioned.

Hayward Hosiery Co., Ipswich, Mass., has been purchased from **Strutwear, Inc.**, by a group comprised of the present management and Greater Boston business interests. Emphasizing that Hayward's affiliation with Strutwear had been completely severed, John W. Printz, Hayward's president, announced that full-scale production had been resumed at Hayward.

A new industrial plant, manufacturing knitted goods for national distribution, has been established in Newton, N. H., by **Keezer Manufacturing Co.** Operating as **Huskee Knitwear Mill**, the firm expects to employ about 70 persons.

Indian Head Mills, Inc., has assumed full control and responsibility for the operations of the Palmetto Bonded Warehouse in Spartanburg, S. C., according to a joint announcement by the two firms. James D. Whatley, a vice-president of Indian Head, will be directly in charge of Palmetto, facilities of which will continue to be available to regular customers in the Spartanburg area. A portion of the space will be utilized by Indian Head as warehousing for cotton for its own mills in the area.

A $2,000 scholarship in textiles, covering a four-year period at Clemson (S. C.) College, has been established by WUNDA WEVE CARPET CO., Greenville, S. C. Left to right, seated, are Clemson president Robert C. Edwards; Forrest E. Dixon, recipient of the scholarship, and W. W. Pate, Sr., president of Wunda Weve. Standing are Wunda Weve's public relations director, Alex Munford, and H. Betts Wilson, field representative for the School of Textiles at Clemson.

A long-term lease to occupy 33,000 sq ft of Building 7D in the **Botany Mills, Inc.**, property in Passaic, N. J., has been signed by **Irwin Mills, Inc.** Starting December 1, the yarn company will occupy the entire second floor of the four-story building.

The 50th anniversary of **Jantzen, Inc.**, was celebrated during the recent 1960 swimwear and sportswear sales convention held in Portland, Ore.

A branch plant, planned to allow for future expansion, is under construction by **Jeffries Processors, Inc.**, in Albemarle, N. C. It is expected that the facility will require about 40 employees. The plant is scheduled to do general finishing of knit goods with some emphasis on sweaters.

A new building will be erected in the next year in Charlotte, N. C., to house the research operations for the new textile division of the **Kendall Co.**, now located in Walpole, Mass., and Paw Creek, N. C. Management and sales offices of the new bleachery at Bethune, S. C., will also be housed in the structure. Chemical, physical, biological, electronic, and microscopic research equipment will be provided, as well as necessary pilot plant machinery for the de-

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velopment laboratory. The accounting department will have added personnel and new bookkeeping and computing equipment. Billing operations will be conducted from the Charlotte headquarters.

Carding, spinning, and weaving operations have been discontinued at **Thomas Kay Woolen Mill Co.**, Salem, Ore. Approximately 12 persons will continue to be employed for a wool dyeing and finishing operation. The company plans to continue to purchase raw stock from other mills and to wholesale finished cloth to garment manufacturers. The firm's retail store will remain in operation, and the present schedule of 30,000 yards a month to cutters will be maintained.

C. H. Masland & Sons has agreed to acquire the business of Horizon Carpets, Inc., an American sales organization distributing floor coverings manufactured in Japan for Mitsui & Co. Horizon will be operated by Masland as a wholly-owned subsidiary. Quality control, service, and adjustments will be in accord with the best American industry practices, according to Masland officials.

A corporate charter has been granted to **Melville Textile Print Works, Inc.**, Statesville, N. C., listing authorized capital at $200,000.

The Madison, Ga., division of **Puritan Cordage Co.** is now in full operation. Lawrence Andriot is vice-president and general manager of the new plant, and O. R. Spayd is superintendent. The plant produces all types of rope and cordage, both cotton and synthetic.

The combing and finishing operations of **Puritan Looms, Inc.**, have been transferred from the Philadelphia, Pa., plant to the firm's Arel-Dillon Manufacturing Co. in Dillon, S. C. Offices will remain in Philadelphia, Pa.

A $1 million expansion program has been instituted at the Carlisle (S. C.) Finishing Plant, a unit of **Cone Mills Corp.** The addition of new machinery and the increase of the plant's filtering facilities is expected to result in an estimated 25% gain in over-all plant capacity.

Cole-Gunn Hosiery Mills, Inc., has completed a 4,500-sq ft addition to its building in Roxboro, N. C., and has installed a few seamless hosiery machines with which to train employees. Regularly scheduled delivery of machines will begin shortly after the first of the year, at which time a number of additional workers will be employed.

The new $2 million plant of **Seneca Knitting Mills, Inc.**, Seneca Falls, N. Y., has opened, replacing the previous structure which was leveled by fire earlier this year. Approximately 400 persons have been employed initially on a three-shift basis. It is anticipated that the work force will be increased as the company plans to begin production of men's dress socks and women's knee length socks in addition to its regular line of men's sports socks.

A 26,000 sq ft addition to the existing Charlotte, N. C., plant will be erected by **Southern Knitwear Mills, Inc.** Activation of the new facilities is expected to result in the addition of approximately 100 employees.

Expansion plans of **Spartan Mills**, Spartanburg, S. C., include construction of facilities to house 208 new 50-inch looms designed to allow the

Continued on page 194

SEASONAL PEAKS

can be taken in stride when you enjoy the financial services of L. F. Dommerich. You can prepare for peaks well in advance, buy advantageously, produce without overtime, ship on favorable terms, all with cash provided under the Dommerich plan.

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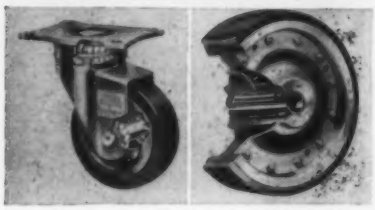

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RUBBER TREADS . . . a wide choice of treads suited to all types of floors, including Darnelloprene oil, water and chemical-resistant treads, make Darnell Casters and Wheels highly adapted to rough usage.

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MILL NOTES

(from page 193)

plant to meet demands for wider materials. It was emphasized that no spindles will be added.

Approximately 1,100 employees of the Slater (S. C.) Mill of **J. P. Stevens & Co., Inc.,** recently celebrated the plant's achievement of working five million man-hours without a lost-time accident. According to plant manager W. H. Fann, the five million man-hour mark was passed only once before by a South Carolina textile plant. * * * Kimberly-Clark Corp., and J. P. Stevens & Co. have formed the jointly-owned and separately operated subsidiary, the **Kimberly-Stevens Corp.,** to produce and market nonwoven materials. Emphasizing the new firm's intensive research and development program, officials of the organization said the company will make immediate provisions to supply existing users of nonwoven materials with a number of nonwoven products utilizing a variety of textile papermaking processes.

A new plant has been opened in Exeter, Pa., by **Summit Weaving Co.** to house combined operations formerly conducted at Wilkes-Barre and Taylor, Pa. Operating on a two-shift basis, the plant employs 90 persons. The firm expects to add a third shift in the near future.

A firm to engage in the manufacture and sale of ceramic type fiber products used in high temperature work has been organized in Gastonia, N. C. Known as **Thermo-Textiles, Inc.,** the company's initial operations will be chiefly as a sales agency. Plans for a manufacturing plant are under consideration, but no firm decision has been announced. William P. Crawley, formerly with the Carborundum Co., is president.

GIVE THROUGH YOUR UNITED FUND OR COMMUNITY CHEST
UNITED

Statement of Ownership

Statement required by the act of August 24, 1912, as amended by the acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233) showing the ownership, management, and circulation of TEXTILE INDUSTRIES published monthly at Dalton, Georgia for October 1, 1959.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, W. R. C. Smith Publishing Co., Atlanta, Ga.; Editor, George H. Dockray, Atlanta, Ga.; Managing Editor, J. Frank Guest, Atlanta, Ga.; Business Manager, John C. Cook, Atlanta, Georgia.

2. The owners are: W. R. C. Smith Publishing Co., Atlanta, Ga.; Estate of W. R. C. Smith, Atlanta, Ga., W. J. Rooke, Atlanta, Ga.; O. A. Sharpless, Atlanta, Ga.; T. W. McAllister, Windermere, Fla.; E. W. O'Brien, Atlanta, Ga.; J. C. Cook, Atlanta, Ga.; R. P. Smith, Atlanta, Ga.; Mrs. E. L. Philpot, Atlanta, Ga.; A. F. Roberts, Atlanta, Ga.; S. J. Jones, Atlanta, Ga.; W. C. Herbert, Atlanta, Ga.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. Paragraphs 2 and 3 include, in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

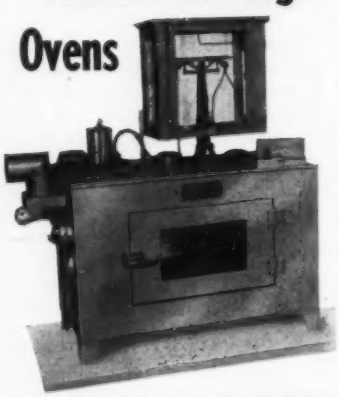
WALTER MITCHELL, JR.
Advertising Manager

Sworn to and subscribed before me this 9th day of September, 1959.

SEBA J. JONES, Notary Public
(SEAL)

My commission expires February 23, 1962.

Textile Testing
Ovens



EMERSON OVENS

For accurate testing of water content in yarn, small wool samples and other textile material. The 8 Basket Oven, shown above, can be furnished with 8 baskets 3" sq. x 6" deep or 6 baskets 4¼" sq. x 6" deep, complete with weighing balances, sensitive to 3 mg., weights and automatic temperature control. Table space 20" x 40".

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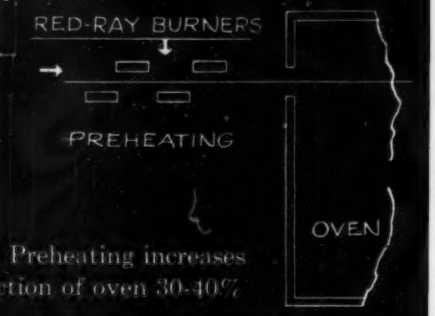

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- ☐ Boil-Off Compounds—Boil-off oils, Triconate boil-off powders, Supersulfate neutral boil-off powders.
- ☐ Amine Condensates—straight and compounded to suit your requirements.
- ☐ Alkyl Aryl Sulfonates—Liquid, paste, and powder. Neutral or built for all purposes. Amine or sodium salts available.
- ☐ Sulfated Esters—for wetting, dyeing, rewetting. Preshrinking assistant.
- ☐ Lauramine 30—superior packaged dyed yarn lubricant and softener. Does not yellow whites or alter shades.
- ☐ Lauramine 20A—A liquid form of Lauramine 20. Predispersed for simplified use.
- ☐ Catamine SF—excellent cationic softener for natural and synthetic fibers. Easily dispersed. Particularly effective on Orion and wool knitted fabrics.
- ☐ Sulfonated Oils—tallow, caster, olive, neatsfoot. Available straight or compounded for special finishing problems.
- ☐ Flame Retardants—a series of renewable type products to cover all requirements on cotton fabrics.
- ☐ Water Repellents—renewable type.
- ☐ Sizes—Resin and gelatine sizing and finishing compounds for all fibers and fabrics.
- ☐ Hydrocop & 3B Softener—Wax Emulsion WG, Wax Emulsion R, Ruxite A—for softening, conditioning, and lubricating all natural and spun synthetic yarns for knitting.
- ☐ Coning Oils—for all synthetic yarns—filament and spun.
- ☐ Hosiery Finishes—a complete line of resin hosiery finishes.
- ☐ Dullers, Weighters and Conditioners—a full line to meet your requirements.
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MOISTURE REGISTER'S MODEL 5 checks moisture accurately in almost every known textile. Any untrained operator can use it effectively – in any stage of production – on cones, beams, skeins; loose or compressed yarns and fibers; Wool, Cotton, Nylon, Rayon, Dacron, Orlon, etc.

It can be calibrated on the spot by plugging the test electrode into the self-checking standard . . . then trimming to zero if necessary. It's always right on the money.

Model 5 features:

- **Trims to Zero on the spot.**
- **Portable, rugged, simple to use.**
- **Gives right answers, anywhere.**
- **Factory-set to your needs.**
- **All common textiles.**
- **2-week free trial.**

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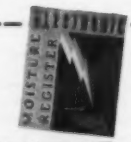

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Please send data on new Model 5's.

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SUPPLIER NOTES

The National Aniline Division of **Allied Chemical Corp.** has appointed Edwin M. Williams, Jr., sales representative in the Greensboro, N. C., area.

Maurice Levin has joined the Fibers Division of **American Cyanamid Co.** as designer in style and fabric development, a new post. The appointment marks the inauguration of a designer service to the fashion and textile industries, said to be the first of its kind by a fiber producer.

According to a recent announcement by **American Rieter Co.**, three Rieter slubbers with new features are being installed at Dionne Spinning Mills Co., St. George, Que., Canada. New innovations are said to include a guide saddle and top roll suspension, a double apron drafting system to allow swift change for varying staple lengths, and a new builder motion.

The formation of a Swiss corporation as a wholly-owned subsidiary has been announced by **Armstrong Cork Co.** Known as Armstrong Cork, International, S. A., the new subsidiary will have offices in Geneva.

Ralph R. Wyckoff has been appointed advertising manager of **Baker Industrial Trucks**, a division of **Otis Elevator Co.** He will headquarter in the firm's Cleveland, O., offices.

The midwest regional sales office of **Celanese Fibers Co.** has been moved to 15 N. Broadway, Des Plaines, Ill. The company's regional merchandising coordinator's office will remain in Chicago.

John P. Batson, Jr., has succeeded his late father in the presidency of **John P. Batson Co.**

A large modern building will be erected in Mountainside, N. J., by **Intercontinental Chemical Corp.** to house **Carbic-Hoechst Corp.**, which sells dyestuffs, pigments, and textile chemicals; **Hostachem Corp.**; and **Hostawax Co.** The latter firms sell chemicals and waxes.

The Textile Fibers department of **E. I. du Pont de Nemours & Co., Inc.**, has formed an industrial marketing division responsible for all sales and merchandising efforts in the industrial field. Millard G. Gamble heads the new division at the Wilmington, Del., offices. William B. Harman has succeeded Mr. Gamble as manager of the Charlotte, N. C., regional sales office.

Sol Redlich has been elected vice-president of **Eastman Machine Co.** He

FORESIGHT
CAN SAVE YOU . . .
MONEY!

ANDERSON SHIELDS

will reduce . . .
CHIPPING — SPLITTING
BREAKING
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SPOOLS AND BOBBINS

Send Us Your Problems:
We Will Cooperate
— To Save You Money.

TEXTILE SHIELD CO., INC.
LAWRENCE, MASS., U.S.A.
SERVING NEW ENGLAND SINCE 1917

continues in the post of sales manager of the New York City office.

Beetle Plastics Corp., a subsidiary of **Crompton & Knowles Corp.**, has begun full-scale production in a new plant at Fall River, Mass. With 43,000 sq ft of space for the manufacture of fiber-glass-reinforced plastics, corrosion-resistant tanks of great capacity may now be built and tested prior to disassembly and shipment.

David F. Driscoll has retired from his position with **Sandoz, Inc.** Mr. Driscoll joined the firm in 1925 and served in a number of capacities. Most recently he was manager of the Los Angeles, Calif., office.

As a part of a general expansion program, the **Scragg Group**, Macclesfield, England, announce the following appointments to the board of directors: Fred Scragg, in charge of technical development; Timothy Dufort, commercial manager; and Harry Hancock, sales manager.

According to an announcement by **Whitin Machine Works**, an installation of 26 Piedmont spinning frames is nearing completion at Blair Mills, Belton, S. C.

Mr. McCamy

Mr. Blumenstein

Carl Blumenstein has accepted the post of technical director and plant manager of **Dixie Size and Chemical Co.** He was also named to serve the company in the capacity of treasurer. Howard McCamy has been appointed vice-president in charge of sales. Mr. Blumenstein and Mr. McCamy were formerly with Seydel-Woolley & Co., Inc.

The board of directors of **Universal Winding Co.** have voted to change the firm's corporate name to **Leesona Corp.** The reason given for the change is that Universal Winding is no longer completely descriptive of the company's operations. * * * Leesona Corp. has acquired the business and fixed assets, subject to certain liabilities, of **Thomas Holt, Ltd.**, Rochdale, England. Leesona's president, Robert Leeson, stated that the purpose of the acquisition is to manufacture machinery for the export market which was previously built in England on a contract basis.

Arthur E. Kallinich has been appointed vice-president in charge of new products and new business by **Veeder-Root, Inc.** * * * Frank J. Swords has been named eastern sales manager with headquarters in Hartford, Conn. Replacing Mr. Swords as southern district sales manager in Greenville, S. C., is Roger Conant. Harris B. Huff has succeeded Mr. Conant in the North Carolina-Virginia sales territory. George L. Logan has assumed his new duties as manager of market research and advertising. Theodore Nelson has been named western sales manager.

A $6 million plant expansion project has been announced by **Emery Industries, Inc.** New construction at the firm's Cincinnati plant will increase several fold the existing capacity for production of azelaic and pelargonic acids from oleic acid by ozone oxidation.

William P. Crawley, who recently

Continued on page 198

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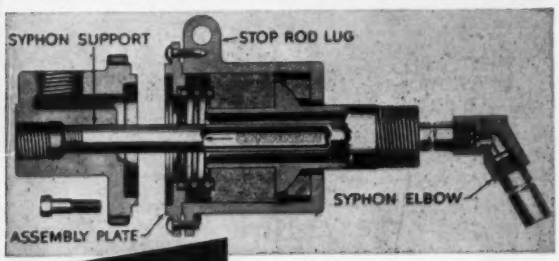
We'll gladly furnish a pair of these units for 90-day obligation-free trial in your mill. The Type SB2P is self-supporting, completely packless, needs no lubrication or adjustment. The Johnson Syphon Elbow permits the use of two straight pipes instead of an unwieldy curved syphon pipe, is hinged to pass right through the joint.



Johnson ROTARY PRESSURE Joints

First in the Textile Industry

Write for Catalog S-3002

Shows self-supporting Johnson Joints for all needs . . . on print cans, calenders, compressive shrinkage ranges, big 5' and 7' cotton slashers, dry cans, etc.

THE JOHNSON CORPORATION

815 Wood St., Three Rivers, Mich.

SUPPLIER NOTES

(from page 197)

organized Thermo-Textiles, Inc., in Gastonia, N. C., has been named mid-Atlantic states representative by **Fabrionics Corp.** Mr. Crawley maintains offices in Chester, Pa., at 2020 Upland St., as well as in Gastonia.

Dr. Ernest L. Wolff has been appointed technical manager of the chemical specialties division of the **Ciba Co., Inc.** Dr. Wolff was most recently group leader of industrial product research at the Bauer & Black division of The Kendall Co.

John O. Cushing has been appointed district manager of the Atlanta, Ga., office of **SKF Industries, Inc.** In his new post, Mr. Cushing will direct the sales and engineering services activities in the Atlanta district.

Two new **Sonoco Products Co.** scholarships in textiles have been announced at Clemson College. First of the annual awards, $500 each, will go to William L. Patrick, sophomore in textile management, and Roy E. Phillips, sophomore in textile chemistry.

Mr. Williams
Southern Machinery

Mr. Sibley
Southern Sizing

Mr. Gresham
Bassick Co.

Mr. McFarlane
W. F. Fancourt

Southern Machinery Co., formerly Southern Loom Development Co., has moved to 5806 Augusta Rd., Greenville, S. C. The larger quarters provides more space for manufacturing, storage, and offices, allowing the firm to further increase operations. * * * E. J. Williams has joined the sales staff of Southern Machinery Co. Formerly with Pneumafil Corp., he makes his home in Spartanburg, S. C.

William A. L. Sibley, Jr., has been appointed to the technical sales staff of **Southern Sizing Co.** Most recently, he was with West Point Manufacturing Co.

William W. Gresham has been named southeastern area sales representative for the **Bassick Co.** His territory includes South Carolina and parts of North Carolina and eastern Georgia.

John M. McFarlane, formerly with American Cyanamid Co., has accepted a position as sales and technical representative of **W. F. Fancourt Co.** Mr. McFarlane's territory is the Middle Atlantic and northeastern states which he will cover jointly with Robert Rhodes who was recently made assistant secretary and director.

E. T. Hackworth has been transferred to Austin, Tex., where he will represent the textile division of **The Keever Starch Co.**

Don Schaaf has succeeded Walter E. Brewer as manager of the textile

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Mr. Hackworth
Keever Starch

Mr. Schaaf
Nopco

Mr. Girard
James Hunter

Mr. Wells
Interchemical

Mr. Wood
Dexter Chem.

Mr. Brewer
Jacques Wolf

chemicals department of **Nopco Chemical Co.** In his new post, Mr. Schaaf is responsible for all activities of the textile chemical department, with particular attention to the planning and improvement of the product line. Mr. Brewer has become sales manager of Nopco subsidiary, Jacques Wolf & Co.

The Thomas Leyland Machinery Co. division of **James Hunter, Inc.,** has been moved to the firm's factory in Mauldin, S. C. The recently acquired inventory of J. T. Beaty Co. is also being moved into the Mauldin plant. * * * Larry Girard of the North Adams, Mass., office has been transferred to Hunter's southern headquarters in Mauldin. The move makes available to all present and potential garnett customers in the south the services and counsel of a sales engineering specialist.

Henry A. Wells has been made assistant sales manager of the southern district of **Interchemical Corp.,** Color and Chemicals Division. Simultaneously, Robert E. Hardy was appointed technical service representative for dyestuffs in the southern district. Both men make their headquarters in Rock Hill, S. C.

Harold C. Wood has joined **Dexter Chemical Corp.** as a salesman in the firm's New England territory. He was formerly with Onyx Oil & Chemical Co.

The formulation and incorporation of **Lenox Chemical Co.,** with headquarters in Providence, R. I., has been announced by its president, Leonard Shaftan. The firm will manufacture chemicals for a wide number of uses in the textile industry and will offer complete sales and technical service facilities. Products will include wool lubricants, anti-static finishes, and dyeing auxiliaries.

A plan for leasing its tricot knitting machine broken end detector has been developed by **Lindly & Co., Inc.** Under the system, a minimum of ten detectors may be leased for a two-year period, after which renewal may be arranged at a reduced rate.

In recognition of the importance of the textile market to its chemicals,

Continued on page 200

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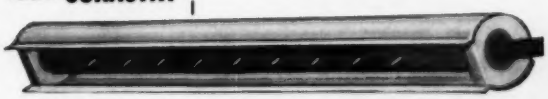

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SUPPLIER NOTES

(from page 199)

Minnesota Mining and Manufacturing Co. has selected Decatur, Ala., as the site of its new $4.5 million plant. Doubling of production capacity for its stain-repeller is anticipated when the building is completed early in 1961.

A graduate research fellowship has been established in the Textile Research Center at North Carolina State College, Raleigh, N. C., by **Moretex Chemical Products Co.** According to Moretex president Paul C. Thomas, the chief purpose of the award is to broaden the knowledge of certain chemicals and chemical processes used in the textile industry. Chitin will be one of the first products studied. Preston G. Baker of Drexel, N. C., a 1959 graduate of N. C. State's School of Textiles, is the first recipient of the fellowship.

A new office has been opened by **Daniel Construction Co.** at 1401 Peachtree St., N. E., Atlanta, Ga. Samuel Wilson is manager of sales at the new location which will serve as headquarters for Daniel Construction Co. of Georgia.

Pittsburgh Plate Glass Co. has revised its expansion program to include the installation of 24 glass furnaces in the new fiber glass yarn plant at Shelby, N. C., instead of 16 as originally planned. Currently, the plant has 12 furnaces in production. According to Robert A. McLaughlin, fiber glass division general manager, when the expansion is completed next year, the plant will have a rated annual capacity in excess of 40 million pounds of textile yarn, making this the world's largest fiber glass plant employing the direct melt system exclusively. At capacity, the plant will employ about 1,200 persons.

Ramsey Products Co. has moved its plant from Albany, N. Y., to 724 Gesco St., Charlotte, N. C. According to Robert McArthur, the firm's president, Charlotte was chosen because of its position as the center of the textile industry. Employment is expected to total 100 persons within the year, the majority of whom will be employed locally.

Roberts Co. has completed a license agreement and sales relationship with Hobourn Aero Components, Ltd., of England, for the manufacture in England of the Roberts spinning frames for cotton, synthetics, worsteds, and blends. A new company called Hobourn-Roberts Co., Ltd., has been established at Burton-on-Trent, England, as a result of the agreement.

Royden Walters has been elected executive vice-president of **Saco-Lowell Shops.** He had been a vice-president with responsibilities of assistant general manager of both Saco-Lowell Textile Machinery Divi-

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sion and the Saco-Lowell Gear & Machine Division, as well as general manager of the Saco-Lowell Textile Replacement Parts Division. * * * Saco-Lowell recently signed an agreement with Metiers Automatiques Picanol S. A., Ypres, Belgium, to sell Picanol looms in the United States and Canada. * * * Harry K. Smyth, a vice-president of the firm, has returned to active duty following an indefinite leave of absence because of his health. He is now in Europe on a special assignment reporting directly to the firm's president, Thomas J. Ault.

A textile engineering division, under the supervision of Jack Sanders, has been created by **Kurt Salmon Associates.** Mahlon R. Saibel has joined the firm in the quality control division. Mr. Saibel was previously with the statistical quality control division of the Quartermaster Depot in Philadelphia, Pa.

Funds to increase capacity for manufacturing fiber glass yarns and roving at Waterville, O., and Parkersburg, W. Va., have been allocated by **Johns-Manville Fiber Glass Inc.** Work at both locations is scheduled for completion early next year. Under consideration are plans for a new southern textile fiber glass facility.

R. L. Hawkins has joined the technical service laboratories of **Colton Chemical Co.,** a division of Air

Mr. Hawkins

Reduction Co., Inc. He will handle technical service for polyvinyl alcohol.

Kenneth Hewison-Smith, vice-president of marketing of **Fiber Industries, Inc.,** has been elected a member of the board. Fiber Industries is currently constructing a 40 million-pound-per-year polyester fiber plant at Shelby, N. C. The firm is owned jointly by Celanese Corp. of America and Imperial Chemical Industries, Ltd.

Gordon Hedrick has joined **Fletcher Southern, Inc.,** a division of Fletcher Works, in management and sales engineering. Mr. Hedrick will concentrate his efforts on narrow fabric looms and high speed down twisters.

Faultless Caster Corp. has opened a new warehouse in Greenville, S. C. The operation is under the supervision of George T. McLeod, district sales representative.

Edward R. Heintz has assumed his duties as manager, dyestuff industry sales, for the Dyestuff and Chemical Division of **General Aniline & Film Corp.** At the same time Otto F. Habel became product line manager, vat dyestuffs.

Robert H. Hoffman has accepted the position of sales representative in the New York district of the Chemical Division of **Goodyear Tire & Rubber Co.** In his new post, Mr. Hoffman will be primarily concerned with the sale of resins to the paint and coatings industries in New York, New Jersey, and Pennsylvania.

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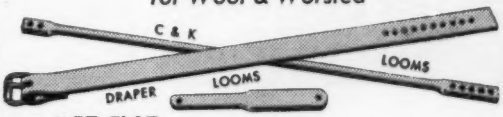

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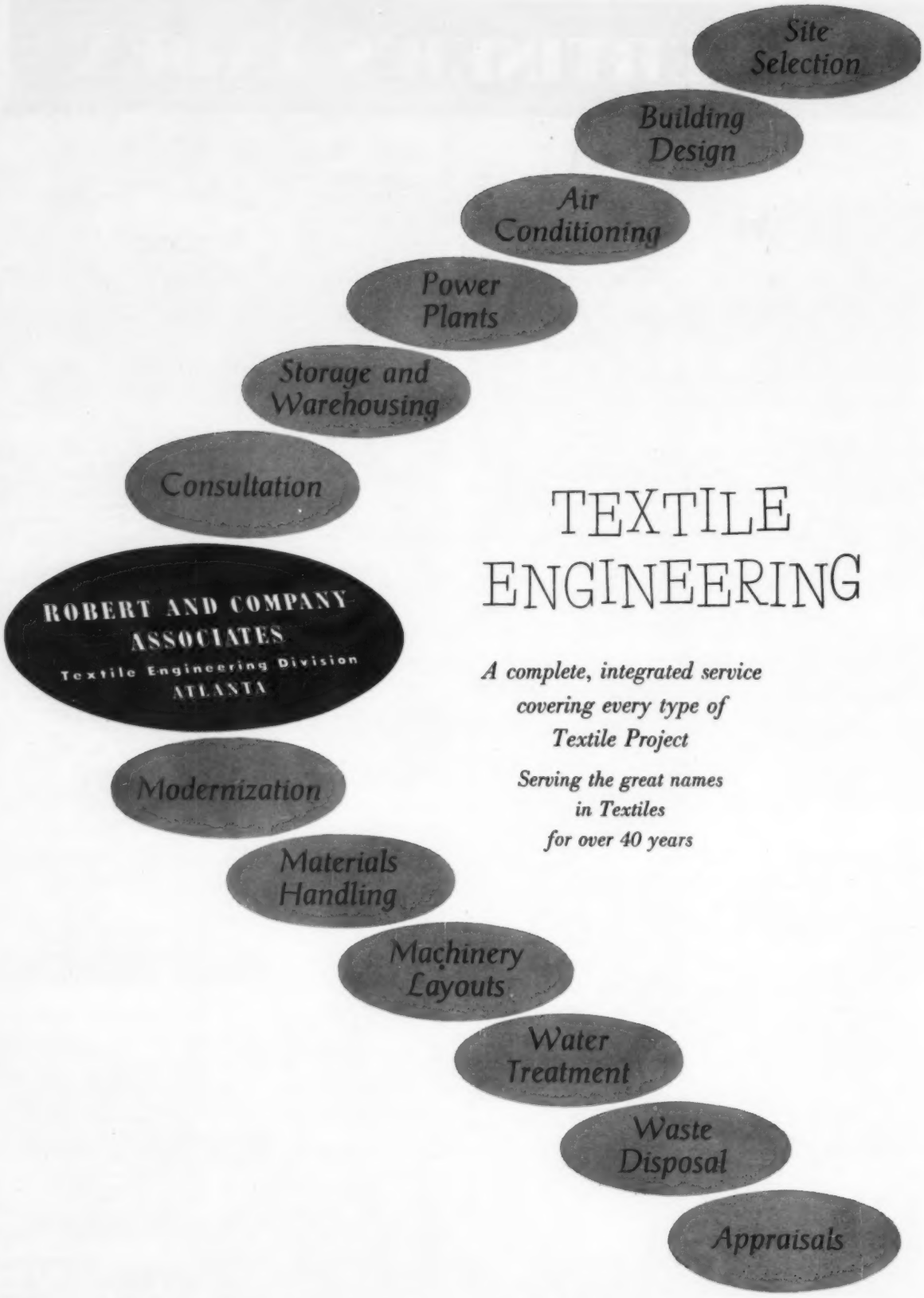


TEXTILE ENGINEERING

A complete, integrated service covering every type of Textile Project

Serving the great names in Textiles for over 40 years

It pays to get Veeder-Root COST-COUNTROL all through your mill

From preparation to final inspection, Veeder-Root *Count*rols help modern mills to *Count*rol production and costs . . . with accurate, up-to-the-minute figures on every process.

At the right are the most widely used profit-protectors in the Veeder-Root Textile Line. Let your Veeder-Root representative show you how little it will cost to equip your mill *completely* with these new counters. *Call him in today.*

Remember . . . *Men Who Count* are the men who count the profits.

2-3-4 Pick, Hank, Yardage & Knitting Machine Counters

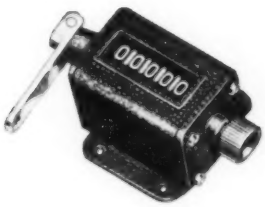
These convertible counters record production separately for each of 2, 3, or 4 shifts, providing a basis for wage payment. Basic 2-shift counter can have 3rd and 4th shift counting u nits added right in your mill, on the machine, as needed.

Double-Wheel Measuring Counters:

Worm-driven Reset Counter at left registers linear units as material passes under the friction wheels. Medium speed range. Widely used in inspection.

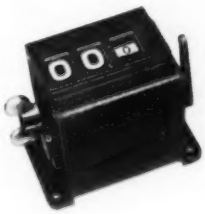
High Speed Reset Double Wheel Counter runs at speeds up to 6,000 rpm or 8,000 cpm.

Resets to zero with finger-flick. Features eye-level reading.



Small Reset Counters

Used on a wide variety of textile machines, including breakers, winders, marking machines, knitting machines and bobbin strippers. Revolution or ratchet types, for speed up to 1,000 counts per minute.



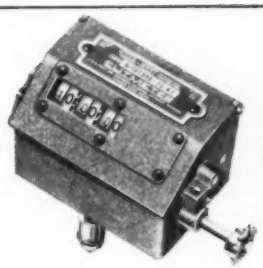
Hosiery Dozens Counter

Used in inspection or on knitting machines. Small figures show single-stocking count. Large figures indicate dozens of pairs up to 100. Hand, foot or machine actuated.

Reset Magnetic Counters

Base mounted or panel mounted. Ruggedly built for speeds up to 1,000 counts per minute. Knob or lock-key reset. Other models for speeds up to 3,000 counts per minute.

Widely used for remote indication.



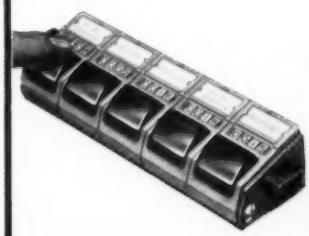
Loom Cut Meters

AND PREDETERMINING COUNTERS:

Cut Meters are predetermining counters for looms, for controlling lengths of cloth woven, without cut marks . . . and without over-runs and shortages. Also available are High Speed Predetermining Counters, both geared and ratchet types, to count any preset number of revolutions, strokes, pieces, lengths.

Count/Pak

The new Veeder-Root Count/Pak — an economical device for high velocity, noncontact counting. Ideal for use on bobbin strippers. Speeds up to 2,500 counts per minute with absolute accuracy. Features include a transistorized circuit with photoelectric sensing system, rugged and reliable construction and Veeder-Root instant reset, high speed electric counter for dependability and long life.



Vary-Tally

This modern hand-operated counter, made only by Veeder-Root, is arranged compactly on stands in tiers. Easily portable, it is ideal for order, stock, inventory control, sales and market analysis, payroll denomination, estimates, traffic control and product inspection. Can be supplied in any of 67 combinations up to 6 tiers high and 12 units wide. Entire row of counters is reset to zero with a turn of one knob.

Veeder-Root INC.

Hartford 2, Connecticut

"The Name that Counts"

Hartford, Conn. • Greenville, S. C. • Altoona, Pa. • Chicago • New York • Los Angeles
San Francisco • Seattle • St. Louis • Montreal. *Offices and Agents in other principal cities*

VR® 63

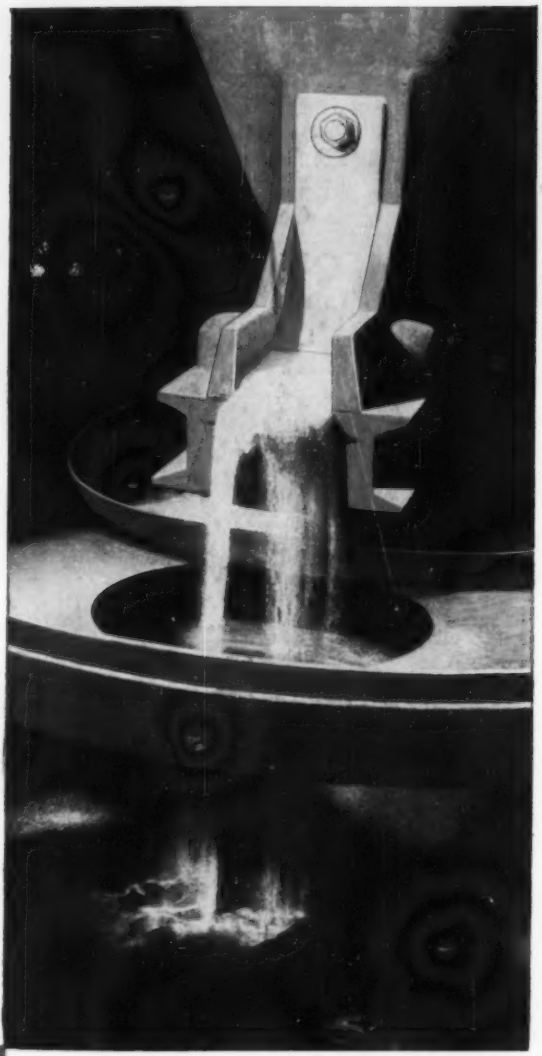
Now you can see for yourself!

The ideal way to demonstrate that Vatrolite* is truly FREE FLOWING, DUST FREE and UNIFORM is to try it at your plant in a dry feeding operation such as that illustrated.

However, to prove in another way how truly fine a hydro can be made, Royce Chemical has ordered a quantity of attractive flow glass—paper weights containing the same Vatrolite that is delivered to you for vat color reduction and stripping.

Watch it flow easily through the tiny orifice . . . proof positive that Vatrolite *is* free flowing, dust free and uniform . . . the reasons why Vatrolite is preferred not only for consistent performance but for ease of handling and perfect dry feeding.

*CONCENTRATED SODIUM HYDROSULPHITE



Vatrolite in dry feeding operation.

Make sure you request this flow glass—paper weight from your Royce representative when he makes his next call.

Royce CHEMICAL COMPANY
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